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# Education of Physicians to Improve Access to Care for the Underserved

## PROCEEDINGS

Second HRSA Primary Care Conference  
March 21-23, 1990  
Columbia, Maryland

U.S. DEPARTMENT OF HEALTH & HUMAN SERVICES  
Public Health Service  
Health Resources and Services Administration

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## Preface

Robert G. Harmon, M.D., M.P.H., Assistant Surgeon General, Administrator, HRSA

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This report is a product of the second primary care medical education conference co-sponsored by the Health Resources and Services Administration (**HRSA**) and the Robert Wood Johnson Foundation, which was convened in Columbia, Maryland, in March 1990.

The purpose of this Conference was to explore, with medical educators and providers, ways in which the access to care might be improved to underserved populations. This Conference, appropriately entitled "Education of Physicians to Improve Access to Care for the **Under-**served," identified those approaches to training and education that would both enhance the deployment of service as well as provide a greater understanding and sensitivity to the care and needs of the underserved and the underclass.

The Conference provided an opportunity for some of the country's leading medical educators in general pediatrics, family practice, and general internal medicine to meet with providers and managers of health care organizations to (1) review the emerging issues in primary care medical education and (2) develop recommendations that might enhance the accessibility of medical care to the underserved.

The Conference was attended by more than 100 primary care educators and providers. It consisted of five plenary sessions; a reactor panel of individuals experienced in the area of health service; and four workshops: Recruitment and Retention, Educational Reform, Enhancing the Linkages Between Medical Education and Community Settings for the Delivery of Primary Care, and Primary Care Research. The workshops were designed as working sessions and addressed issues derived from background-related papers developed by 14 primary care experts.

It was the clear consensus of the attendees that the Conference was a success in meeting both its objectives and in addressing one of the Secretary's highest priorities—to improve access to health care for the Nation's most vulnerable and **high-**risk population groups.

The Conference proceedings document, which will be acted upon by the HRSA and other organizations and agencies that were represented at the Conference, encompasses possible legislative, budgetary, and administrative changes.

Like all such undertakings, the success of the Conference and its products represent the joint efforts of several individuals.

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HRSA is indebted to the many writers who contributed to the session. Their names and organizations are cited in the attached report.

The success of the meeting was further insured by the able chairpersons who conducted the workshop sessions. HRSA acknowledges the significant role of the following moderators who gave considerable time, energy, and thought to the planning efforts of the Conference by also serving as members of the planning committee. It is doubtful that the Conference would have achieved its purposes without their help. Moderators for the Conference were: Dr. Joel J. **Alpert**, Boston University School of Medicine; Dr. Rupert A. Francis, **Meharry** Medical College; Dr. Jane L. Murray, American Academy of Family Physicians; Dr. Eugene S. Mayer, University of North Carolina at Chapel Hill; and Dr. Steven A. **Wartman**, Rhode Island Hospital.

HRSA is especially appreciative of the reactor panel response to the workshop reports. Their critical questions and useful insights into the several recommendations provided a reality to the Conference

proceedings. The reactor panel included: Dr. Harry Beaty, Northwestern University School of Medicine; Dr. Jo Ivey Boufford, King Edward's Hospital Fund for London; Dr. John L.S. Holloman, Jr., William F. Ryan Community Health Center; Dr. Stephen Keith, U.S. Senate Committee on Labor and Human Resources; Dr. David N. Sundwall, **AmHS** Institute; and Dr. Louis F. Rossiter, Health Care Financing Administration.

In addition to those already mentioned, other contributions must be acknowledged. HRSA extends its special thanks to Mr. Ronald **Carlson**, who served as the Conference Project Director, and Dr. Pearl **Wisham** Perry, who served as the Conference Project Officer; Dr. J. Jarrett Clinton, Dr. Donald L. Weaver, Dr. William A. Robinson, Dr. David E. Heppel, Dr. Patricia Salomon, Ms. Cherry Tsutsumida, and Ms. Anabel Crane of the PHS and HRSA staffs, whose efforts contributed to the successful outcome of the conference; Ms. Susanna Ginsberg, for the invaluable editorial contribution; and the staff of Social & Scientific Systems of Bethesda, Maryland, which served as the project's support contractor.

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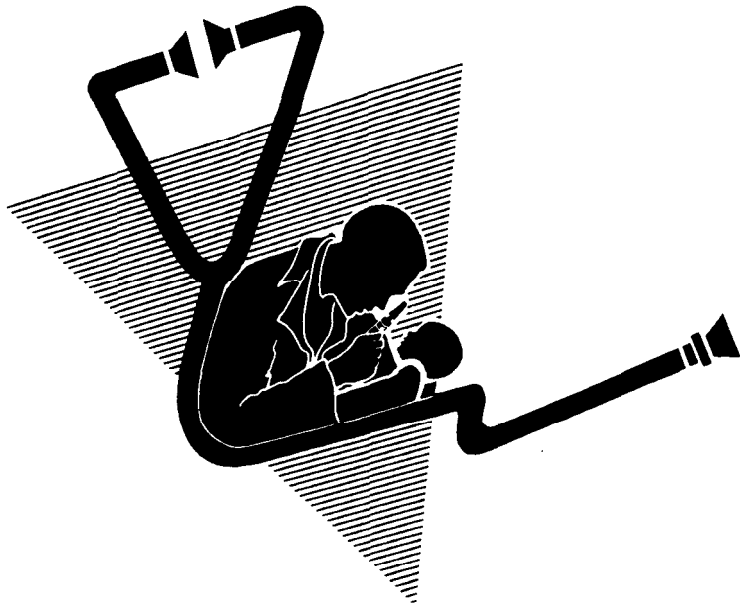
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## Executive Summary







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# Executive Summary

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## Background

**The** Health Resources and Services Administration (**HRSA**), as an agency of the Public Health Service (**PHS**), U.S. Department of Health and Human Services (**DHHS**), has leadership responsibility for general health service and resource issues relating to access, equity, quality, and cost of care. Among the activities I-IRSA engages in to carry out this responsibility are the following:

- Support of State and community efforts to plan, organize, and deliver health care, especially to the underserved.
- Provision of leadership in improving the education, distribution, and utilization of the health professionals needed to staff the Nation's health care system.
- Support of efforts to increase the number of minorities in the health professions.
- Assigning and supporting limited numbers of primary care physicians and other health professionals to health manpower shortage areas through the National Health Service Corps (**NHSC**).

In keeping with these responsibilities, HRSA has convened two national invitational conferences to discuss primary care issues and their relationship to medical education and the provision of primary care services. The first Conference, "Primary Care Medical Education," held in March 1988, explored future directions of both undergraduate and graduate medical education. One of the recurrent themes heard at this Conference was the need for innovative approaches to primary care training residencies. Participants at the Conference focused considerable attention on current medical school curricula and faculty development. The overarching issue was the future direction of the primary care physician's medical orientation, education, and deployment in view of the continued health status disparities among minorities and other at-risk populations.

Approximately 2 years later, the Second HRSA Primary Care Conference, "Education of Physicians to Improve Access to Care for the Underserved" was held in Columbia, Maryland. During the intervening 2 years, the crisis in primary care has been exacerbated. As a result, many primary care educators and practitioners are questioning the adequacy of the medical preparation being offered to address the needs of the unserved and underserved.

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Through a series of presentations and four intensive workshops, this Conference focused on preferred approaches to providing the kind of physician's training and education required to assure a greater understanding and sensitivity to the care and needs of the underserved and the underclass. It provided an opportunity to:

- Address the Secretary 's/Assistant Secretary's priorities on improving the access to care for the underserved.
- Present, discuss, and consider the emerging issues in primary care medical education.
- Develop policy options and make recommendations that reflect a mixture of outcomes and processes, including strategies for best achieving needed and desired changes.

## Defining the Problems and Issues

HRSA Administrator, Dr. Robert G. Harmon, welcomed the attendees to what might be considered a "summit for primary care" at a time when primary care is at a crossroads. Dr. Harmon indicated that not

only is it increasingly difficult to attract students for primary care residencies, but funding, for both education and service delivery, is harder to attain. Dr. Harmon charged the attendees with addressing these issues and developing new approaches. He indicated that there was a need to make a serious commitment to redirect some resources to where we know they will do the most good—primary care prevention and public health.

## Barriers to Access

Financial barriers have always been considered the major contributing factors to lack of access. Even with expansion of Medicaid coverage, an estimated 31 to 37 million Americans are uninsured, and over 60 percent of the black population, mostly women and children living in poverty, do not qualify for Medicaid. The lack of access to health care services, particularly primary care, is reflected in the disparities among segments of the population by such indicators as infant mortality rates; life expectancies; and the incidence of HIV/AIDS and various cancers. Estimates presented by Dr. David **Satcher**, President of **Meharry** Medical College, show that there are over **60,000** minority deaths (excess deaths), which would not have

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occurred if minorities had the same mortality rates as the majority population.

In addition to financial barriers (affordability), two other aspects of barriers to **access** were discussed by Dr. Satcher: availability and acceptability. These barriers are evidenced by:

- Reduced program support for community-based primary care services, including community and migrant health centers (**C/MHCs**), which serve primarily the uninsured and those who cannot obtain services in the private sector.
- Disproportionate hospital closures among historically black hospitals that have inadequate capital to compete. This pattern is a major concern because these hospitals care for many of the poor.
- Underrepresentation of minorities in the health professions—less than 3 percent of physicians, dentists, and other health professionals are black. This results in a lack of minority role models for both minority and majority students and barriers to care due to cultural differences.

In addition to poverty affecting access through affordability, availability, and

acceptability, Dr. Satcher suggested that “different attitudes” of the poor to health care are also barriers to access. Attitudes resulting from a sense of powerlessness and lack of adherence to treatment regimens, as prescribed by physicians who do not understand “the culture of poverty,” present challenges to everyone involved in the provision of primary care and the education of primary care physicians.

### **Responding to the Barriers**

**The** need to improve access to primary care and the roles that medical education and the medical profession play in meeting the health care needs of the underserved were the two recurring themes presented by the various speakers. Dr. Leighton E. Cluff, President of the Robert Wood Johnson Foundation, suggested that an appropriate preamble to this Conference might be taken from his speech at the first Conference:

**Perhaps it is time for those responsible for primary care training programs to develop and provide medical services for population groups in their communities that are medically underserved or deprived. These programs not only would provide new settings for training in general medical care but would serve an important community need.**

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This linkage-between education and health service delivery-was echoed by DHHS Secretary, Dr. Louis W. Sullivan, Assistant Secretary for Health, Dr. James O. Mason, and President of the Association of American Medical Colleges (**AAMC**), Dr. Robert Petersdorf, as well as in the

### **and the Medical Profession**

Dr. Cluff reviewed the long tradition in many medical centers of providing care to the poor and underserved minorities. Echoing his comments, Dr. Sullivan stated that medicine is a serving profession and those in the profession have a social responsibility. Because medical schools are an important investment of society, medical schools (as social institutions) and their

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products (physicians) have responsibilities to society-to assure that medical care is available to the entire population.

Dr. Cluff further indicated that these responsibilities are not just those of an individual department, such as family medicine, but of the entire medical school, its faculty, and students. He stated that “it is the time for all of us who are privileged to practice medicine to make a commitment.” Expansion of public service obligations (such as the **NHSC**) should be extended to all young physicians.

To address the social responsibility of medical schools, many of the speakers suggested that medical schools place the same value on primary care currently placed on research and specialty areas and that community and ambulatory experiences for all students be developed. An environment must be created in medical schools that supports medical students’ and residents’ interest in primary care careers rather than the current environment, which many students report mitigate against such choices. As Dr. Donald Weaver, Director of the NHSC, suggested, this emphasis must include a comprehensive strategy reinforcing primary care interests, which begins at recruitment, continues throughout medical education and beyond, into practice.

### **Expanding the Pool of Primary Care Physicians**

**The** United States, with 30 percent of its physicians in primary care, does not compare favorably to Great Britain’s 70 percent general practitioners and Canada’s **50** percent. This limited number of primary care physicians intensifies the barriers to access for the underserved, particularly given heavy competition from the private sector for these very same physicians. In addition to not having a sufficient supply of primary care physicians, Dr. Weaver indicated that the existing supply is not equally distributed. Currently there are 1,955 health manpower shortage areas in the country with 4,224 vacant positions.

This picture of major gaps in the supply of primary care physicians does not improve when one examines the current pipeline of residents. Recent data, including the current match of medical students to residency positions, show that a declining number of medical students are selecting primary care specialties. This year’s preliminary data show a 10 percent decrease in internal medicine, no significant change in family medicine, and some potential improvement in pediatrics. However, the overall effect is a decline in

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primary care and, more importantly, an increase in unfilled positions in programs located in inner-city areas.

Given the current gaps, how can we address the needs of the underserved? Dr. Cluff stated that “there is a belief that we can provide better and more medical care to the underserved if we train more physicians skilled in what we now call primary care and provide, for undergraduate medical students and residents-in-training, clinical experiences in caring for the underserved.” He suggested that while this hypothesis has been tested over the past 20 years, it has, for the most part, not been successful as evidenced by the current resident match figures and the data on the current primary care physician supply. These gaps still exist despite major efforts of many medical centers.

Evidence does, however, indicate that the profile of those entering medical school can have an effect on increasing the numbers serving the underserved. Therefore, Dr. Cluff, Dr. Weaver, and others suggested that there is a need to look at who enters medical school. More careful attention needs to be given to students with characteristics known to be associated with serving the underserved—students from rural areas and minorities.

While entering characteristics of students may have more to do with who will provide general medical care to the underserved, it is the environment in which medicine is taught, not the **specific** curriculum, that influences student choices. Thus, expressions of a medical school’s societal responsibilities are part of the environment needed to attract new clinicians to primary care in underserved communities.

In addition to the importance of ambulatory education in the training of primary care physicians, Dr. Petersdorf outlined some of the current trends, which are increasing the shift away from hospital-based education to ambulatory experiences. Among the significant deficiencies in the hospital as the major clinical site are the changing hospital environment (the sicker and quicker phenomena of the Diagnostic Related Groupings (DRGs) and managed care environments), new technologies that allow procedures, once available only in the hospital, to be implemented in other settings, and the inappropriateness of the hospital site for role models for primary care.

### **Issues to be Resolved in Expanding Primary Care Education**

Dr. Petersdorf identified six major issues that must be addressed in expanding

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primary care education (ambulatory and community-based experiences). These areas provided an overview for much of the discussion of the four concurrent workshops that followed the presentation. The issues were:

- **Attracting faculty committed to ambulatory education**

Efforts to obtain such faculty should include recruiting from the community and establishing “clinician teachers” who are honored like research faculty.

- **Increasing the use of ambulatory settings**

Considerations include issues of maintaining the “standards of school and accreditation,” “engaging those providing care,” and turf issues between the medical school and community setting. The settings need to include a range of delivery system sites and different approaches for medical students and residents.

- **Maintaining continuity in patient relationships**

Unlike hospital care, which is more likely to be episodic, ambulatory care is

intended to be comprehensive and continuous, thus the episodic relationship of students to the delivery site creates problems that must be addressed. Students need to be available when the patient needs care, and their presence must not disrupt the ongoing patient/physician relationship.

- **Defining the nature of the learning situation**

Underlying the use of community settings is the need to balance pedagogy and the delivery of care. This **includes** recognition of the loss of efficiency in delivering care created by the additional teaching burden.

More specific aspects of content have been addressed by the AAMC and others. Among the critical issues are: working with the team approach, the difficulty of achieving multidisciplinary links, and assuring graduated responsibilities for residents.

- **Evaluation of the student in these settings**

Recognizing the greater **difficulty** of evaluating students in the ambulatory setting, the need for specific objectives



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and clearly defined curriculum were identified as prerequisites for consistent and adequate evaluation.

- **Added costs of ambulatory settings**

The current financial mechanisms for financing clinical education do not acknowledge the costs in ambulatory settings. Core education funds need to be provided for medical students and for residents. Existing dollars need to be shifted from inpatient settings and supplemented by faculty practice funds and State and local grants.

These issues are among those considered by the workshops in their deliberations on the second day of the Conference.

## **Deliberations of the Workshop Groups**

Four workshops were developed to address major concerns regarding the education of primary care physicians to improve access to care for the underserved. These workshops addressed: Recruitment and Retention, Educational Reform, Enhancing the Linkages Between Medical Education and Delivery of Primary Care, and Primary

Care Research. Moderators were preselected and met prior to the Conference to prepare for the workshops. For each workshop, experts were identified and invited to prepare papers on specific topics. Each workshop's papers were circulated prior to the Conference to the members of the workshop.

Mr. Ronald H. **Carlson**, Associate Administrator for Planning, Evaluation, and Legislation, HRSA, charged the workshop groups with developing provocative, challenging, practical, affordable, and innovative ideas and recommendations. Particular emphasis was placed on the need to recognize the significant resource limitations under which the Federal programs operate. Workshop participants were further asked to consider the roles to be played by various members of the public and private sectors in keeping with the partnership required to reach meaningful solutions to the current crisis. Each group was asked to prepare a short (five page) report of issues and recommendations. Copies of the four workshop reports follow this summary.

On the final day, all Conference attendees were provided with the written results of the workshop deliberations. Each workshop moderator presented a summary of the

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group's efforts. A reactor panel chaired by Dr. Joel **Alpert**, Professor and Chairman of the Department of Pediatrics at Boston University, provided both general and specific reactions and comments to the workshop recommendations. The panel, including individuals experienced in finance/reimbursement, health services, academia, State government, consumer advocacy, and legislation, responded to the workshop recommendations. In addition, an opportunity was provided for audience reactions and questions.

What follows is a summary of each workshop's background materials, Conference report, and comments from both the reactor panel and subsequent discussion among the Conference participants.

### **Workshop I: Recruitment and Retention**

Within the last decade, there has been a growing national consensus that a mismatch exists between the proportion of primary care doctors needed (about 70 percent) and the proportion in practice (about 30 percent). This apparent imbalance has been attributed to the following factors: (1) the disparity in net income between primary care physicians and those in more technologically-oriented specialties; (2) the lack of appropriate recognition for

ambulatory care settings in primary care training; (3) the high cost of medical education with the resulting debt facing many graduates; and (4) relatively low reimbursement of services provided in ambulatory settings.

In addition, an issue of special concern is that of underrepresentation of persons from racial/ethnic minorities among current medical students and practicing graduates of U.S. medical schools. Increasing minority representation is essential if minorities are to have equal access to a career in medicine and if equity in access to services is to be achieved. For two decades, increasing the numbers of persons from underrepresented racial and ethnic minority groups in medical schools has been a goal for both the public and private sectors, yet underrepresentation of certain groups has persisted. A number of factors have been identified as causes including: inadequate secondary level preparation, inadequate/inappropriate counseling, certain medical school admission policies, a relatively high attrition rate after matriculation, and the substantial costs of obtaining a medical degree.

In its deliberations, the members of this workshop identified three major issues:

- Federal action through legislation and/or rule making to promote recruitment of minority faculty.
- Faculty development awards and support for clinical teaching and enhancement of minority role models, placing such activities on par with those for publications and research grants.

To increase the selection of primary care specialties, Workshop I recommended:

- A range of financial incentives including medical student scholarships, improvements in primary care provider incomes, and improved reimbursement of clinical teaching, including accounting for the costs of primary care education in ambulatory care settings such as community health centers.
- Expansion of student exposure to primary care practice.
- Establishment of partnerships between primary care educators and **community**-based service delivery systems including development of model sites and institutions; teaching by practicing primary care physicians; and incentives

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and recognition of preceptors at service delivery sites.

Recognition was also given by the Workshop I group and reinforced by reactor panel members that simply increasing the numbers in primary care specialties is not sufficient to assure service in underserved areas, particularly given the competition for these specialists.

The major recommendation addressing the third issue-how to deal with the underserved-was that of reform of the current system of financing health care in this country. A national health program was recommended as the prerequisite for assuring access to care for the currently underserved. This recommendation reflected strategies suggested by a number of the Conference plenary speakers.

Other recommendations included:

- Selection by medical school committees of applicants with the right demographic profiles. (This recommendation was also made by Workshop II.)
- Additional financial incentives such as higher reimbursement rates in

underserved areas and creative **loan-** forgiveness and repayment packages.

- Development of additional incentives such as flexible career opportunities, promotion of the benefits of managed health care systems and collaboration with other professionals to enhance the effectiveness of primary care physicians.

### **Reactor Panel Response**

Responding to these proposals, the reactor panel and other Conference attendees made the following comments. There is a need for a single educational approach, not a separate track, to deal with training persons to serve the underserved. Community exposure is needed by all medical students to learn the dynamics of treating patients. Major attention should be paid to developing a full range of incentives for retention, not just financial ones. The need for strong commitments by medical schools was reiterated.

The attendees were also reminded that a long-term perspective is required before the effects of recruitment approaches can be seen; therefore, it is important to be cautious in dealing with funding sources and policy makers. Major attention needs

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to be paid to these long-range efforts, because they are the prerequisites for increasing the pool from which to recruit, otherwise schools are just competing with each other for a limited number of minority candidates.

### **Workshop II: Educational Reform**

**The** charge to this workshop was to review past and current educational experiences and propose new ways of making primary care medical education better “fit the territory.” Clearly, quality health services, rendered with care and with recognition of the patient’s family/cultural context, require a sound balance between primary and secondary care. Many analysts have called for earlier introduction to patient care and a heavier emphasis on it throughout the undergraduate years.

Other issues raised in examining educational reform have included: the scheduling of work time in ambulatory sites as a principal educational experience for primary care residents. Shifts in settings have implications for faculty (preceptor) development, financing of the educational function, and operations at the site, e.g., productivity of the preceptors could be expected to decline somewhat, as delineated by both Workshops I and III.

In considering the issues related to educational reform, this workshop group developed a set of tenets for its discussion, which generally reflect the issues and recommendations of Workshop I. The group concluded that: “Educational reform can be undertaken to facilitate the development of increased numbers of appropriately trained primary care physicians functioning in a cohesive system of integrated health care services and, thereby, improve access to care for the underserved.” They further concluded that in order for primary care to be effective, all levels of care must be in place.

Five issues related to educational reform were identified by Workshop II:

- Recruitment and selection of students likely to serve the under-served and those who will choose primary care careers.
- Alterations in the medical school curriculum to promote education of students in primary care, especially in underserved areas.
- Expansion of opportunities for graduate medical education in primary care disciplines and encouragement of

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service to the underserved in all graduate medical education programs.

- Alterations in the practice environment and supports to provide incentives for primary care practice and service to the under-served.
- Incentives for medical schools to fulfill their social mission to provide care for the underserved and to promote primary care career options.

Recommendations related to altering the curriculum included two types: those specifically related to the curriculum and those required to create a supportive environment for primary care education. The curriculum-specific recommendations include:

- The implementation, by all medical schools, of a primary care curriculum for all students within 3 years.
- Explicit determination of requirements by medical schools including experimentation with relative educational value systems; development of community-setting experiences with interdisciplinary faculties and effective primary care role models; and

innovative programs jointly sponsored by the various primary care specialties.

Recognition of the need to provide a supportive environment in which these educational reforms can take place resulted in several recommendations including:

- Definition by medical schools of appropriate community education and service environments.
- Changes in the curriculum governance structure, which would allow a faculty group to define and implement a coherent education program.
- Support of faculty education and development, creation of interdisciplinary faculties, and appropriate academic, financial, and other rewards for clinical care and teaching in ambulatory settings.

Workshop II also recommended that the Liaison Committee for Medical Education (LCME) reinforce these reforms by evaluating medical schools on the basis of criteria that reflect the principles inherent in them. (A similar role for the LCME was also recommended by Workshop III.)

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Similar, though less detailed, recommendations were made for graduate medical education. They include: curricula recommendations expanding teaching in under-served areas and making the curricula more responsive to a biopsychosocial model of medicine; a role for Residency Review Committees (**RRCs**) (the graduate medical education accrediting groups), which would foster these changes; and the establishment of a special national commission to develop guidelines and targets for the number and types of residency positions. (This latter proposal was also made by Workshop III, reflecting a view that there is a need for national policy that is responsive to the identified shortage of primary care physicians.)

Workshop recommendations were also made to provide financial and other support and incentives for primary care practice in underserved areas and for practice-based research. (Strengthening of the primary care environment was viewed as an important step in enhancing the role of the community partner in educational endeavors considered in Workshop III.)

The final set of recommendations related to supporting the social mission of medical schools. These recommendations include financial support and development of public

policies and public/private partnerships to achieve comprehensive primary care for the underserved. Among the recommendations are:

- The doubling of support through Title VII with priority in funding for those educational programs that most effectively address service to the underserved and consideration of funding based on the number of graduates entering primary care or working in underserved areas.
- Support for other programs such as research in educational innovations, primary care research, and projects involving collaboration between medical schools and Federally funded health care settings.
- Changes in Medicare educational reimbursement that differentiate by needed specialties, cover costs of teaching in ambulatory settings, and consider programs linking preventive medicine and primary care.
- Partnerships between all levels of Government and academic health centers to provide comprehensive primary care while educating students and residents to provide that care.

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- Involvement of the private sector (foundations and industry) as well as all levels of Government in supporting these efforts.

### **Reactor Panel Response**

Comments from the reactor panel and audience reinforced an underlying concern that there is currently no linkage between efforts examining health care system reform and considerations of educational reform. There is a need to get consideration of medical education with a primary care perspective into whatever reform package moves forward. All considerations must recognize the higher costs of ambulatory education and the need to bring representatives of obstetrics/gynecology into the primary care discussion. It was also observed that although fundamental reforms in the delivery system are needed, educational reform cannot wait for those changes to take place but must proceed in anticipation of them.

### **Workshop III: Enhancing the Linkages Between Medical Education and Community Settings for the Delivery of Primary Care**

For several reasons, including heavy financial pressures on teaching hospitals,

stronger relationships between education programs and community-based ambulatory service sites have become mutually desirable. As patients tend to be admitted for severe conditions typically treated by subspecialists, educational programs need more ambulatory sites in which to provide the types of clinical experiences that practicing primary care physicians will confront most commonly. Service programs, such as **C/MHCs**, need more primary care physician services. Joint educational and service programs can ideally meet the needs of both types of organizations while secondarily providing the service sites with a broader pool of potential recruits for permanent positions. By the same token, some practicing physicians find community-based ambulatory medicine more attractive as a career choice if there are opportunities for teaching and the associated ties to an academic base.

The group considered the experience of the Area Health Education Centers (**AHECs**), the main Federal response, and other State responses to the need for such linkages. It is important to note that, with or without Federal assistance, a number of States have undertaken “remote site” training programs having goals similar to those of the **AHECs**. In addition, some community health centers (**CHCs**) have entered into



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agreements with educational institutions to serve as primary care training sites.

Like the other groups, Workshop III first examined the array of access issues and the underlying principles within which to address linkages. **This** examination included the need for medical schools to develop targeted activities related to the recruitment of medical students, curricular reform, and research in primary care-the topics of the other three workshops.

The specific issues addressed by Workshop III included:

- The role of Federal policy in creating and/or reinforcing barriers to the development of linkages between academic medical centers and the community.
- Variations in State policies with respect to health manpower development and support for medical education in community settings.
- Lack of recognition and acceptance of the role of academic medical centers in increasing the supply of primary care physicians for underserved populations.

- Lack of recognition by community service settings of the importance of linkages with the academic setting, including the impacts such linkages have in improving quality of care and increasing services to their patient population.
- Lack of attention to the development of systems to stimulate, organize, and maintain bridges between the academic and service sectors.
- The role of accreditation in encouraging linkage development.

A series of 20 recommendations were presented by Workshop III, half of which reflect recommendations related to the Federal role. Among the Federal recommendations are:

- The need for an explicit health manpower development policy addressing geographic and specialty maldistribution.
- Federal leadership in developing a **long-term** strategy for stable financing, emphasizing linkages with educationally sound programs in underserved communities.

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- Expansion of primary care emphasis in existing financing of medical education including: expanded educational roles for **NHSC** providers; increased funding for predoctoral primary care funding under Title VII reauthorizations; and long-term and stable financing for an expanded program based on the AHEC model under the same reauthorization.
  - A series of coordinating efforts including convening various groups (intra-Federal agencies; academic, service, and professional representatives; and State governments) with similar interests.
  - Reassessment and changes in policies of the Health Care Financing Administration (**HCFA**), Medicaid, and the Bureau of Health Care Delivery and Assistance (**BHCDA**) to support linkages, as well as emphasizing and reinforcing primary care (ambulatory) education.
  - Solicitation of support, by the Secretary, from professional societies and associations in promoting **community-**based primary care education.
  - Specific roles for State governments including developing health manpower policies and supporting medical education to meet policy objectives. Councils of graduate medical education would focus specific attention on these issues.
  - Academic medical centers should reallocate resources to support ambulatory and community-based primary care education; develop external advisory councils; develop faculty development programs; and provide technical assistance and funding to primary care sites.
  - Community **settings** should develop programs for staff and board members to foster the linkages and cost share in the educational endeavors.

Other recommendations of the workshop included:

Like Workshops I and II, Workshop III also recognized the enabling and reinforcing roles to be played by the accrediting groups for undergraduate and graduate medical education.

#### **Reactor Panel Response**

**The** reactor panel and audience discussion stressed the importance of educational and community linkages to educational change.

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The discussion identified requirements for medical school commitments; long-term investments in supporting linkages such as AHEC and the critical nature of the State role. It was suggested that a conference examining successful models of teaching linkages in health centers and other ambulatory settings be sponsored by HRSA. More stable support for community settings was also identified as an important prerequisite for developing an environment in which education can occur. Finally, the Workshop II recommendation regarding financial support of residencies that favor primary care residencies by reimbursing them at higher rates was reinforced in this discussion.

#### **Workshop IV: Primary Care Research**

One of the questions being raised among primary care disciplines today is how better to share information and exchange ideas on areas of common interest. Although the research within each is focused on its own goals and objectives, a joint effort might result in more productive primary care research programs.

Underlying the need to support and foster more primary care research is the view that the long-term success of community-based primary care is critically dependent upon

the development of effective patient-care services, medical education, and research activities in the primary care setting. These activities are as interdependent in this setting as in the referral hospital.

Currently, primary care research is undervalued and underfunded. There are too few investigators trained to conduct this type of research and collaborative efforts have not been promoted.

The group was asked to review the state of knowledge concerning education for primary care delivery and identify significant information needs that could best be filled through collaborative projects. Subgroups of Workshop IV members considered research with a focus on the underserved; collaborative efforts across the primary care disciplines; and fostering of multi-site studies, which could enhance **generalizability** of research. Two sets of recommendations were developed.

**The** first set of recommendations identified the major themes that should be addressed in primary care research: primary care practice; innovative program development in primary care; and primary care education and training. Specific parameters for each are identified in the workshop report. The

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second set of recommendations reflects the implementation of the research agenda.

To implement a primary care research agenda, the workshop recommended that:

- HRSA work in conjunction with the Agency for Health Care Policy and Research (AHCPR) to develop the agenda.
- A substantial commitment of resources be made to support the agenda.
- Support be given to increasing the current cadre of primary care researchers.
- This support includes: (1) a recommendation to establish a PHS primary care institute that would focus on primary care research methodologies, community approaches to primary care, management of health centers, and introductions to Governmental health policies; (2) expansion of postdoctoral fellowships; and (3) awards to promising young investigators. A fourth proposed approach, requiring research methods exposure in residency training, was not supported by the broader Conference audience.

### **Reactor Panel Response**

Comments from the reactor panel and audience reflected the need to establish linkages with schools of public health so as to more closely integrate educational curricula. A recommendation was also made to enhance the utilization of research findings in policy by convening annual meetings of legislators and Federal and State policy makers to share research findings.

### **Consideration of the Recommendations and Implementation Strategies**

Following the workshop presentations and discussion, presentations by Dr. William L. Roper, Director of the Centers for Disease Control (**CDC**), and Mr. John K. Iglehart, Editor of Health Affairs, were made to the Conference participants.

Dr. Roper reiterated the premise posited by most of the Conference speakers and the workshops-reforming the health care system in America is necessary in order to **fix** problems in medical education. Solutions to the problems will require public/private partnerships. Dr. Roper

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indicated that medical education, however, does not appear to be part of the current debate about the health care system. He suggested that the problem in the current debates which are part of the three commissions, outlined earlier by Dr. Sullivan, is the lack of consensus in this country about what to do. The “public” still believes that more is better and does not appear to be willing to deal with the tradeoffs which must be part of a pragmatic solution.

Dr. Roper indicated that current reform will require reaching a public/political consensus as to desirable tradeoffs between cost and access. He stated that if access for the currently underserved is to be improved, methods of limiting the cost of care to those who currently have access must be found. Solutions and reforms must take three things into account. First, there is unlikely to be a large peace dividend, although there may be some marginal benefits as the Nation shifts focus from defense to domestic programs. Second, improving access to care must mean improving access to preventive services. In this area, it is important to find out what works both in terms of service and in terms of public education efforts. The current emphasis on medical effectiveness must also be applied in the prevention area.

Finally, reform must focus on the problems of health in minority populations.

Following on the theme of public/private partnerships identified by Dr. Roper, Mr. Iglehart characterized our current health system as a public/private system in which the flow of dollars generally reflects private interests more than those public ones that have been the focus of the Conference. In this public/private environment, the general view is that medical care should be regarded as public good, as it pertains to the poor. It is also held that the medical profession should remain relatively unrestricted.

**Mr. Iglehart** suggested that there are several important deficits in the political arena that must be addressed if the recommendations of this Conference—both to reform medical education and to shift emphasis to primary care and access—are to be achieved. The political realities are that the policy community does not really understand much about medical education and how it works. Further, primary care is not really on the current agenda nor is consideration of the need for primary care physicians. The focus is still on financing, reflecting the views generally held by policy makers that if we can find a way to finance the system everything will work out.

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Given these gaps, Mr. Iglehart focused his remarks on the types of activities required to include the Conference's concerns regarding primary care and medical education on the political agenda. He suggested that there is a need to consider the points of leverage for promoting these interests. The first point is the DHHS leadership. Careful balances must be struck to obtain support for HRSA efforts and especially for Title VII programs. Broader recognition of minority health issues must also be obtained.

Mr. Iglehart's second point was that legislation alone will not bring about change. There is a need for the "influence of position." Here the influence of Dr. Sullivan's position as both a spokesperson for important societal values and as a convener of various interest groups is key. Conference recommendations regarding a commission on health manpower planning; convening of the various government agencies dealing with primary care; and influencing the new agenda for health research should be examined. Further, an important nonlegislative strategy should be the broadening of the net of those involved and committed to primary care.

The third area to consider is the role of private foundations and others such as associations, consumer groups, and State governments. Those groups who can help bring about the desired 70 percent primary care physician pool need to be identified. Mr. Iglehart also suggested that the extensive experience of private foundations needs to be shared. He proposed that the foundations, in tandem, inform the Government of what they have learned through their experiences.

In concluding, Mr. Iglehart suggested that all of the problems identified in the Conference deliberations will not be solved by the PHS or Title WI. Other parts of the Government and the private sector must be involved. More effective strategies to mount a concerted primary care interest lobby need to be developed. The strategies should focus on how to influence the budget reconciliation process; how to educate legislators; and how to use the media. Suggestions made by other groups such as the use of a small percentage of the Medicare and Medicaid budget for preventive services and examination of the growing emphasis on Medicaid at HCFA should be explored.

The Conference concluded with summary remarks by Dr. Harmon. Following up on

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Mr. Iglehart's suggestions about how to influence the political process, Dr. Harmon emphasized the fact that change does not always require new legislation. Many changes can be implemented through rule making and other administrative approaches.

In summary, Dr. Harmon identified four major themes of the Conference:

- **Theme 1: A Focus on Minority Health Issues**

Efforts need to build on the current \$117 million proposal, which includes the NHSC and expands the PHS Office of Minority Health. These efforts need to be increased, which will require involvement of States and the private sector.

- **Theme 2: Inter- and Intra-Governmental Linkages**

Dr. Harmon recognized the importance of the recommendations in this area and as HRSA Administrator made a commitment to work closely with HCFA and the AHCPR. He also recognized the importance of bringing the States into the process by increasing their role in **HRSA's** planning for health manpower development. Finally,

he stressed the importance of linkages between academic medical centers and the delivery system, indicating that these linkages will require significant efforts.

- **Theme 3: Financing**

Both expanded insurance coverage and delivery system reforms are required to achieve improved access to care for the underserved. Given the current realities, this will require a rethinking of the use of existing dollars. Consequently, fostering of change will require a lot of hard work at both the State and National levels, including efforts by a "primary care lobby" to successfully compete for funds. Dr. Harmon challenged the Conference members to take on positions of leadership in the educational arena so that educational reform efforts will reflect primary care interests.

- **Theme 4: Politics**

Dr. Harmon noted the frustration primary care providers and educators have had in standing alone to argue for reform. Given the importance consumer groups can have in influencing legislation and policy, Dr. Harmon

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suggested that natural allies such as the American Association of Retired Persons should be brought into the primary care debate.

In moving forward with the agenda set by this Conference, Dr. Harmon suggested that the current group of primary care educators and practitioners be expanded in three important ways. First, students and residents need to be brought into the process. Second, the group should include practitioners other than physicians who are part of the primary care delivery system. Expanded roles for these members of the primary care team should be considered, given the current access problems. Third, primary care interests must be allied with public health and its emphasis on prevention.

Finally Dr. Harmon stated that research and evaluation will be a priority, although

1 percent of (evaluation) funds are being tapped from other sources, making it a scarce resource. HRSA will work closely with the newly created AHCPR. He proposed consideration of establishing a national institute of primary care or ambulatory care as proposed by Workshop IV. This should include examining an approach in HRSA similar to **CDC's** Epidemiological Intelligence Service, focusing on areas such as primary care and maternal and child health.

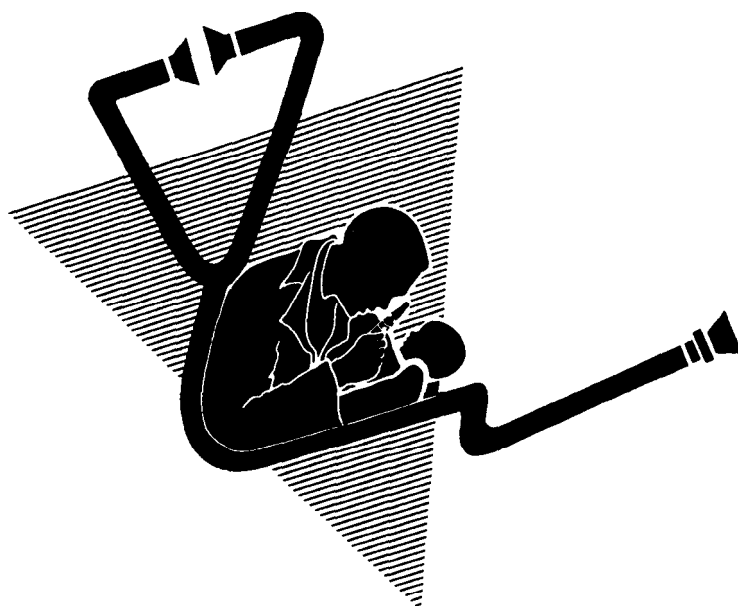
Dr. Harmon concluded that HRSA will develop an action plan based on the recommendations of this Second HRSA Primary Care Conference. He assured the attendees that their advice had been heard and that they would be called upon to further the work of addressing the matter of getting needed care to the underserved.





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## **Plenary Speakers'/ Rapporteur's Remarks**





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# Medical Experiences Required to Meet the Needs of the Underserved

Leighton E. Cluff, M.D., President, and Richard C. Reynolds, M.D., Vice President,  
The Robert Wood Johnson Foundation

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Perhaps it is time for those responsible for (primary care) training programs to develop and provide medical services for population groups in their communities that are medically underserved or deprived. These programs not only would provide new settings for training in general medical care but would serve an important community **need**.

These statements were part of my address to the First HRSA Primary Care Conference "Future Directions in Primary Care." Two years later, they are an appropriate preamble to the Second HRSA Primary Care Conference "The Education of Physicians to Improve Access to Care for the Underserved."

Tonight, the Honorable Secretary of the DHHS, Dr. Louis Sullivan, a long-time friend and colleague, will describe the "Crisis in Primary Care." My task this evening is to characterize or illustrate the "Medical Experiences Required to Meet the Needs of the Under-served." Implicit in these titles is the belief that we can provide more improved medical care to the under-served if we train more physicians skilled in primary care and provide for undergraduate medical students and residents with clinical experiences in care for the under-served.

This theory has been tested for more than 20 years but for the most part has not been successful. Despite major efforts by many medical centers, we have not significantly increased the proportion of physicians engaged in primary care. Today only 30 percent of our physicians are generalists. By comparison, 70 percent of physicians in England are generalists, while in Canada the rate is 50 percent.

We are dismayed that in recent years fewer students have been entering residency programs in general medicine and family practice. For 20 years we have been trying to train more generalists. Some academic centers have been providing direct care to underserved populations. Teaching hospitals in major cities have a long tradition of providing care to nearby community residents, many of whom are poor, uneducated, minority immigrants. Some **AHCs** embrace large public hospitals whose major mission is to care for the indigent. A few medical schools in underpopulated areas have undertaken rural health care projects to provide training in these underserved areas. I know from personal experience that these activities do have an effect on the participants. During the 1970's each resident of my program in internal medicine spent 1 month in a small rural county overseeing a group of medical

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students caring for all the citizens 24 hours a day. Years later, in a **followup** survey, 87 percent indicated that, as a result of this experience, they had developed a greater awareness of health problems in rural areas, while 63 percent said their familiarity with poverty-related health problems had improved. Only 20 percent of the physicians felt that the experience had influenced their career decisions.

My generation of physicians and those who preceded me were indebted to “clinic” patients--the poor and underserved--for most of our clinical training. There was an unwritten compact between us and the patients: They would permit us to provide the best care we knew how thereby fulfilling their need for care and our need for training.

Medical schools need to enrich experiences for medical students and residents in direct care for the underserved. If they do not, there will be further attrition in their graduates’ opting for some responsibility in providing care to the underserved. There are no surprises as to what these experiences might be.

The unique characteristics of each medical school will determine the character of these experiences, which should embrace all

students. All students and residents must be immersed in these experiences, not be walk-through observers. Students should work in the setting, seeing, examining, and caring for patients.

I urge each medical school to commit itself to care for a segment of its nearby underserved community in an ongoing, comprehensive manner. Activities might include a migrant health clinic, an HMO to serve Medicaid constituents, and health care for primary and secondary schools or poor populations. This must be a school responsibility, not that of a single department or a few dedicated faculty. The experience must be obligatory for all medical students and residents. I urge the **LCME** to encourage such medical school activity as part of the accreditation process. Commitment of medical schools to serve the needy and exposure of medical students and residents to problems of health care besetting underserved populations should rank at least equal to instruction in anatomy or biochemistry.

Medical schools have a social obligation. They have the responsibility to identify, educate, and certify those who will care for the society that pays for most of the medical education and for its personal medical care. Similarly, medical schools

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must prepare students and residents to care for everyone, and unfortunately, there are still too many medically underserved.

There is evidence that the profile of students entering medical school can affect where they practice. Students from rural backgrounds are more likely to return to rural areas to practice, and black physicians care for a high proportion of their race. Therefore, student characteristics present upon entering medical school may have more influence on their future commitment to care for the underserved than the medical school curriculum.

It is the environment in which medicine is taught, rather than the curriculum itself, that most influences students' career choices and commitment to care for the poor. It is important that a medical school that provides experiences to meet the needs of an under-served population express its institutional value for this purpose. Medical schools inculcate the professional values that are intrinsic to medicine.

During the late 1960's and through the **1970's**, medical students often led medical schools to support **free** clinics and become involved in community health centers or migrant health projects. Unfortunately, this student activism has waned, paralleling a

decline in social concern for the less fortunate. Medical schools' dependence in the 1950's and 1960's on research grants and, more recently, on faculty practice for revenue has diverted many schools from an interest in the medical needs of the underserved. This diversion has promoted the pursuit of faculty income over serving a population that does not increase revenue.

It is my impression that doctors in the early and mid-century were responsive to the needs of the poor. In most communities, large and small, in return for hospital privileges, doctors were obligated to cover the emergency room or work in clinics where many of the poor were cared for. Older patients, in the absence of any health insurance, often became medically indigent upon retirement. It was customary for their medical care to be continued by physicians for markedly reduced or no remuneration; but those were the professional values of the time. In 1965, Medicare and Medicaid legislation extended health care benefits to many populations that had been unable to pay for their care. This hallmark legislation, despite its imperfections, has been successful in enfranchising some of the poor and most of the old for health care. However, it also removed a considerable portion of the charitable activity of physicians, who had earlier

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provided care to this group of patients. I applaud this legislation and strongly support these programs, but this social legislation has affected physicians' values. Many physicians and medical school faculty are now reimbursed for professional services they previously provided charitably for the poor. Because students observe the behavior of their teachers, there is even more reason for medical schools as institutions to reinforce the professional value that doctors, individually and collectively, are responsible for the care of all members of society.

Medical schools have focused on the training of physicians to care for individual patients by integrating an array of symptoms into a diagnosis that permits the rational treatment of a patient's illness. This was epitomized in the classic **Clinical-Pathological Conference**, for decades a revered educational activity. This paradigm does not transfer, however, to the care of populations or to the consideration of public health. The underserved have their share, maybe more than their share, of the ordinary illnesses that affect everyone. But their social condition, crowded living conditions, poor nutrition, and lack of money to seek care early, thwart the efforts of medical treatment to prevent disease and promote good health, and result in a

disproportionate incidence of mental illness, alcoholism and drug abuse, AIDS, trauma, and even homicide and suicide. The interplay of social issues and individual illness requires not only an understanding of personal health care but a knowledge of those social forces affecting people's health. This is basic to medical schools' undertaking of greater responsibility for care for the underserved.

Tonight we are concerned about providing better health care for the **underserved**. We are seeking ideas and methods of educating physicians to improve the access to care for the underserved. As much as I endorse the recommendations that will result from this Conference, the early student participation in community-based medical care projects, a change in medical school admissions policies, an emphasis on training primary care physicians, and a basic commitment from medical schools to provide care to a segment of the underserved community are essential.

With rare exceptions, it is unrealistic to expect physicians to make a lifetime commitment to the care of the poor; but that does not excuse physicians' concern for the health care of the poor. The settings in which the underserved live-isolated rural areas, inner cities, prisons-are not areas

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where many young physicians can be expected to pursue a lifetime practice. The raising of children, their education, the nature of local amenities, income generation, and work opportunities for the spouse will, in time, overcome even the most dedicated physician's commitment to the underserved. But physicians are still obligated to address these needs.

The NHSC was a Federal response to meet some of the needs of the poor and populations not readily served by physicians. The participants engaged in a noble cause and received monetary benefits, some of which applied to the cost of their medical education. Unfortunately, this program has gone the way of other social programs in recent years.

Most physicians of my generation were obligated to participate in the "doctors' draft," an activity that had continued after World War II and ended in 1974. It was the expectation of all young physicians that they would serve 2 years in the Armed Services or the PHS. This "draft" provided physicians needed for the Armed Services, and through the PHS, provided care for Native Americans, prison inmates, and maritime workers.

Recently, some physicians' leaders have supported the development of an obligatory public service program for all young physicians. Obviously, such a program would yield the manpower to provide medical care to the underserved. Physician&either during or after completion of their residency training-could be assigned to provide services where they are unavailable or inadequate. They could be paid a stipend, and adjustments could be made in their medical school costs. It is not my purpose to describe the details of such a program. It would be cumbersome but feasible as several countries already have such programs. The splendor of such an effort would be the recognition by physicians of their responsibility to provide service to those in need. The advantage to those receiving services is obvious. With the assurance of the continuing availability of physicians, it would be possible to develop appropriate systems of care. Only you can decide whether the time has come for physicians to promote such a venture. It will not occur without physician leadership and support.

I have taken seriously tonight's challenge to define and describe medical experiences for students and residents to meet the needs of the underserved. I have identified some



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specific medical school programs that might help. However, I have indicated that such programs by themselves in the past have had little success. The profile of matriculating students and their demographic and psychological character may have more influence on where and how they practice than the medical school experience. Nevertheless, the culture of a medical school, which includes care for the underserved as part of the physician's obligation, is required to ensure that

students recognize their collective responsibility to care for the poor. I have been presumptuous in suggesting that the **accreditors** of medical schools consider this venture as part of the assessment of these schools. Lastly, I suggest that we as physicians, and those of you engaged in health policy, begin to think about a period of public service for young physicians as part of their professional and social responsibility.

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# Crisis in Primary Care

Louis W. Sullivan, M.D., Secretary, U.S. Department of Health and Human Services

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I'm delighted to share tonight's microphone with my able colleagues from the DHHS, Drs. Robert G. Harmon and James O. Mason, and with my friend, Dr. Leighton Cluff of The Robert Wood Johnson Foundation. All of us-in and out of Government-who have dedicated ourselves to the improved health of the American people have no more stalwart, steadfast ally than The Robert Wood Johnson Foundation, led by Dr. Cluff. Thank you. We are grateful to you and your colleagues. Thank you also, Dr. Mason, for the very gracious introduction. I know that American patriot, Thomas Paine, will forgive me if I begin these brief remarks by taking license with his most famous words: "These are the times that stretch men's minds."

This Second HRSA Primary Care Conference, like the first in 1983, has been convened to address an important unsolved and unresolved public policy question. Two years ago, the Conference focused on medical education and the development of an agenda for its improvement. You will address a no less compelling issue: "Educating Physicians to Improve Access to Care for the Underserved." I applaud HRSA for convening these Conferences. They are the creators of new perspectives; they parent innovation, reform, and progress.

A bit of arithmetic proved an easy litmus test to measure the diversity of this Conference. You represent 28 States and your experience and expertise are equally pluralistic. That is why your deliberations, thoughts, and conclusions are going to advance the "access" cause.

I want to emphasize at the outset my long held conviction that the crisis in primary, care cannot be dissipated, let alone eliminated, by the medical profession alone. If we are to weave a corrective tapestry, the threads must be strong and diverse. The physicians of America and their professional allies are essential-but so are the private and public sectors.

The presence of so many members of the DHHS family testifies to our belief that there is a crisis. It testifies as well to our commitment to be your ally in the formulation and implementation of answers to the problem. Tomorrow and Friday, you educators and providers will be deeply involved in facts and hypotheses, in ideas and experimental models, and in innovation and rigorous re-appraisal. I know that you share my sense of urgency as you begin your deliberations.

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Only 2 weeks ago, a succinct but timely *Wall Street Journal* story sounded a new alarm:

After a decade of decline, the incidence of low birthweight in the United States is on the rise, particularly among blacks. The findings, released by the CDC portend higher rates of illness and death among undersized infants in the first year after birth. Moreover, those infants that do survive, face the risk of additional medical problems in the early **years** of their lives.

In the remaining few paragraphs of the story, the “why?” was tersely addressed:

[There was] a higher proportion of unintended pregnancies, particularly among the poor, and [there was] a jump in the number of fetuses exposed to drugs.

These emerging data compound an already serious, ongoing infant mortality problem in the United States.

- Each year, nearly 40,000 babies in our country die before their first birthday. We can only imagine the genius lost to us as well as the unfulfilled promise and talent of those lost and crippled lives.

- Our infant mortality rate, which was at its lowest point ever in 1988-9.9 per 1,000 live births-is slowly improving. And the data I just reported to you will further slow or stall our progress.
- Approximately one-quarter of the 4 million babies born in our 50 States each year are born into poor families. Black and Hispanic youngsters are nearly 3 times as likely to live in poverty as white children.

One study after another reaffirms the correlation between poverty and infant mortality-a figurative, if not literal, curse on the black and poor communities of our country. Black infants are twice as likely to die in the first year of life than white babies. In 1986, the death toll for black newborns from prematurity and low birth weight was four times that of their white counterparts.

Another group of Americans facing a serious health crisis are the uninsured. When so many of our people are enjoying the sunshine and benefits of prosperity, it is all too easy to underestimate the genuine tribulation that afflicts millions of our neighbors and fellow Americans. More than 30 million Americans are without health insurance. Of our nonelderly

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population, 17.6 percent are uninsured. One-third of them are children, and **one-third** of them live in poverty. Of those who are employed, 14 percent lack health insurance. However, the Americans hardest hit by this all too common phenomenon are young adults, blacks, Hispanics, singles, and jobless families.

In his State of the Union address 2 months ago, President Bush asked me to carefully review all the proposals for corrective action that have been and will be advanced this year on the “access” question. My hope and plan is to have policy recommendations ready for the President by the New Year.

Unfortunately, infant mortality and the formidable number of uninsured Americans have, for a very long time, been on our health deficit screen to be factored into the growing crisis in primary care. But none of us were prepared for the virulent, unrelenting arrival of substance abuse and AIDS.

Drugs pose a greater threat than ever to American public health.

- Intravenous drug use (in and of itself, the courting of death) is now the single largest source of new HIV/AIDS virus

infections accounting for perhaps **one-half** of all AIDS-related deaths.

- In 1988, approximately 375,000 children (that’s more human beings than now live in the city of Minneapolis!) were born exposed to illicit drugs. About 30,000 to 50,000 babies per year are exposed to crack. The extent of the suffering, dysfunction, and impairment these children will endure throughout their lives is incalculable.
- Blacks and Hispanics represent 41 percent of adult AIDS cases and over 75 percent of the pediatric cases of HIV infection, primarily from substance abuse and sexual transmission. The AIDS “numbers” have quickly become an avalanche of disability and death.
- The CDC reports that between 650,000 and 1.4 million Americans are infected with the HIV virus, and the CDC projects that between 52,000 and **57,000** cases of AIDS will be diagnosed during 1990. By the end of 1993, the total cases of AIDS are projected to be between 390,000 and 480,000.

Our Nation’s last viral epidemic was Polio. We are trying to mobilize, counterattack,

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and repulse AIDS with the same zeal and medical genius that dispelled the Polio plague.

In addition to research and therapy, we are also helping to provide financial, housing, and social support to HIV-infected persons. Furthermore, we are tackling the difficult issues of personal and societal discrimination due to the stigma of the illness.

In the DHHS budget for fiscal year 1991 (the budget Congress now has under consideration), President Bush and I have tried to grapple with the human and public health realities. Compared to fiscal year 1990, our budget requests an increase of \$63 million in the PHS programs as part of an initiative for reducing infant mortality, primarily for underserved populations.

Included would be a new \$25 million "one-stop-shopping" initiative to be carried out through the maternal and child health program. This grant and technical assistance effort is designed to encourage the States to bring under a single "one-stop" umbrella a variety of health and social services for pregnant mothers and infants. Other PHS increases directed at reducing infant mortality include: the case-management initiative, C/MHCs, and infant health epidemiology efforts to better define

the parameters associated with adverse pregnancy outcomes.

The Medicaid budget includes an additional \$300 million in fiscal year 1991 to provide for mandatory coverage of pregnant women and young children who are living at or below 133 percent of the Federal poverty line, a provision Congress enacted as part of Omnibus Budget Reconciliation Act-89 (OBRA-89), in response to the Administration's request.

We are seeking \$117 million for a new initiative directed toward increasing the number of minority health professionals and sustaining faculty at minority medical institutions. This initiative will also support innovative, community-based approaches to recruiting minorities into health service careers and creative new strategies to offering health care services in association with low-income public housing.

I am proud to acknowledge the paternity of this \$117 million endeavor. I will be monitoring its birth and growth just as if it were the fourth child in the Sullivan household.

There is a welcome overlap in the agenda of this Conference and the budgetary and program agenda of the DHHS. We both

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know that we have better success in reaching poor, underserved neighborhoods if we recruit and train health professions students who are most likely to practice in medically underserved areas. Giving students an opportunity to work in the communities they love-where they often have deep roots-is a wise and humane answer to one of our most serious problems. We are capitalizing on the fact that, more often than not, minority practitioners are more sensitive to minority needs.

Change, innovative answers, educational reform, and new partnerships can all point us toward progress. Harvard's "New Pathway Program" was begun in 1985 as an option for its medical school students. As most of you know, it included small group tutorials, case-based discussions, independent study, and primary care experience. The program, in operation, struck an intellectual and a compassionate chord in the participating students. It is now an integral part of Harvard's basic medical curriculum.

We at the DHHS continue to probe for and encourage new partnerships between academic health centers and the health care industry, particularly the following, which explore the terrain of the underserved:

- The North Carolina **AHEC** Program has been successful in linking the academic resources of the university health sciences center with local planning, educational, and clinical resources. This **AHEC** program is an excellent example of what has happened with initial Federal investment: the program has prospered and continues to broaden its scope and its impact.
- In Florida, what was initially a demonstration project based on two federally funded AHEC projects is growing into a more permanently based "Statewide AHEC System." The program has been expanded and continues to improve patient care by bringing the State's health care educational system into ever closer linkage with the State's system for delivering care to its medically indigent population.

As we gather to ponder some of our unsolved problems and still unrealized potential, I want to conclude with a reminder that for two centuries the United States has been the success story of the age. We are still the prime consummate problem solvers of the world. I believe, with all my heart, that the triumphs of our past are but a prelude to the victories of

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tomorrow. I want to pledge to all of you the friendship and partnership of the United States Government in this new decade.

We and the dollars of the Federal Treasury can no longer be looked upon as the only answer to the problems that still confront us. But we want to-and we will-be

active partners in the exciting search for answers and solutions to the crisis in primary care and opening the access door to those who are underserved.

All of us at the DHHS eagerly await your conclusions and your recommendations.

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# Primary Care: Present and Future

Robert G. Petersdorf, M.D., President, The Association of American Medical Colleges

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## Introduction

This is the first time in several years that I have given a talk on primary care. It fills me with some trepidation because I am not sure that what I am going to say has not been said better by others. I suppose that my attempt to analyze this issue represents a microcosm of the formidable challenge that primary care education poses to the entire educational enterprise.

Primary care education can be equated with ambulatory education. I owe a great deal to ambulatory education because the clinic at the Johns Hopkins Hospital represented the launching pad for my career in academic medicine. In 1955, when I came to Hopkins as a research fellow in the Biological Division-now the Division of Infectious Diseases-my mentor, Ivan Bennett, locked me in the lab and threw away the key. He was quite successful in doing so with one exception. Research fellows at Hopkins then-and there were not many of us-had to pay their dues by serving in the medical clinic. Shortly after my arrival in Baltimore, a message came from the chairman's **office** via his very genteel secretary stating that "Dr. Harvey would like to have you attend in the clinic one morning a week." It sounded like a request, but it was a command. Every

Thursday morning I would go to the clinic, supervise one or two students who would work-up new patients while I saw the followups. It was an enjoyable and instructive experience. There were a lot of patients, and they were generally sick-heart failure, thyrotoxicosis, diabetes, peripheral vascular disease, peptic ulcer, obesity, arthritis, and inflammatory bowel disease abounded. We saw them all. I enjoyed being a doctor as well as a teacher.

Toward the end of my second year as a fellow, I received a call from Bob Williams, then Chairman of the Department of Medicine at the University of Washington, to come out and look at a job. When I met with Dr. Williams, I asked him how my name had come to his attention. He said that Sam **Asper**, head of the medical clinic at Hopkins and a former fellow of Williams, had recommended me as a good potential faculty member. After several interviews and visits, I found myself in Seattle as a young chief of service at the old King County Hospital. This might not have happened had it not been for my tour of duty in the Hopkins medical clinic.

This early experience gave me a sense of appreciation for ambulatory medicine. Indeed, when I became chairman of my own department in 1964, I decided that



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ambulatory medicine was a neglected activity in the Department of Medicine at the University of Washington-particularly by the faculty. I mandated that every senior faculty member, including me, put in a half day in the clinic. It did not work very well. Of course, the senior faculty did attend their specialty clinics, but I was less than successful in recruiting them to the general medicine clinic, and it was not until I had put together a full-time faculty to staff those clinics nearly a decade later that I came close to achieving the goal of giving ambulatory medicine a respected place in the Department of Medicine. In fact, I was at least a decade ahead of most of my peers in establishing the precursor of a division of general medicine.

The frustrations I encountered as a department chairman in according ambulatory teaching and training its rightful place in the medical curriculum taught me an early lesson on what has been a common experience for many medical educators. How we have and have not coped with these issues will be the subject of this morning's talk.

## Historical Perspective

American medical education rightly enjoys a place of prominence in the world. We have a system that provides an excellent education to young men and women. One of the most valuable components of the American medical education system has been the strong grounding in clinical care that our medical students and residents receive. However, many leading medical educators now question the value and relevance of our clinical education. They have mounted the challenge to the academic medicine community to revitalize the medical education system so that excellent clinical education remains an essential cornerstone of the educational enterprise.

In colonial times, medical students learned their profession through apprenticeship. Formal training in medicine was a restricted privilege permitted primarily to those who received that training in Europe. In time, medical education became more sophisticated, medical schools grew and flourished, and by **1860**, there were 65 medical schools in the United States. The carnage of the Civil War and the accompanying disease and pestilence exposed the deficiencies of American medical training, and leaders in academic medicine looked to Europe for guidance in

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improving their system of medical education.

The German paradigm of firmly grounding medical education in the sciences and the medical school in the university was popularized by the Flexner report in the early part of this century and was widely adopted. While it is undeniable that the scientific influence of this model was a major factor in improving American medical education, another concomitant development in American medical education has also contributed to its success: the integral role played by the immersion of students and graduate trainees and the faculty in the delivery of patient care. This was made possible by a development that paralleled American medical schools' adoption of the university model, namely, the close affiliation between medical schools and hospitals. The hospital wards became the laboratories for the clinical scientists on medical school faculties, and the existence of a scientific base for clinical departments was accepted within this new scholarly framework.

The rise of the modern teaching hospital is a milestone in American medical education that was aided and abetted by the Flexner report. In his book, *"Learning to Heal,"* Kenneth Ludmerer notes that "with the rise

of the teaching hospital, the long needed improvements in clinical education occurred very rapidly." He cites an announcement at the 1926 AAMC annual meeting that ward clerkships "had been instituted in all medical schools." From that point, the medical school **and** the teaching hospital became inextricably linked, and teaching hospitals became the principal sites for clinical educational experiences. Training in outpatient clinics and other ambulatory care sites has generally been considered supplementary to the inpatient experience, and, in recent years, many such experiences have been elective.

The teaching hospital has provided a positive environment for clinical education. The concentration of patients has allowed young physicians to be exposed to a large number of patients with a wide range of diseases. Likewise the hospital has offered a heavy concentration of teachers armed with a panoply of consultations in many specialties. In addition to the faculty, medical students and housestaff have had peers available in the hospital setting who could serve as learning partners. Moreover, the ancillary resources provided by a professional nursing staff, laboratories, pharmacies, and social services all contributed to the educational advantages

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offered to young physicians in the teaching hospital setting.

In recent years, medical educators have come to recognize that the teaching hospital setting as an educational device has significant deficiencies. As a consequence they have advocated alternative mechanisms, particularly ambulatory care settings, to achieve the goals of clinical education. What convinced us that this internationally acclaimed model, the teaching hospital was a less than ideal environment for clinical training? There are several reasons for the growing realization that new settings and models for clinical education are necessary for American medical education.

First, the environment of the hospital has changed. There are sicker patients, and they are hospitalized for a briefer period. The average length of stay for AAMC member nonfederal hospitals-our country's premier teaching hospitals-has dropped from 8.7 days in 1980 to 7.8 days in 1987. Frequently the patient's principal diagnosis and work-up have been performed prior to admission, and much of his recovery takes place after discharge. This has two effects on clinical training-one educational and the other environmental. The effect on medical education has been that it is more difficult to structure a coherent learning

situation that enables the student to follow the full progress of a patient. As for the second effect, Mitchell Rabkin characterized it well in his plenary session address to the 1984 AAMC annual meeting when he said: "Reduced length of stay takes its toll on those patients we do see in the hospital. It is not simply the quantitative impacts of earlier hospital discharge and diminished overall patient contact." He goes on to describe the "SAG index," an acronym for a sense of anxiety versus gratification. The SAG index is invoked "when utilization review committees mandate that the patient be ejected four hours before the first encounter in which the patient feels well enough to proclaim his doctor as 'the best surgeon in the state.'" As a result, "both the doctor and the student will view patients as more dour and clinical practice as less rewarding than either desires."

New technologies have caused the migration of certain treatments and procedures from the hospital to other settings. Many surgical procedures are now performed on an ambulatory basis. Aggressive home health agencies now provide **enteral** feeding, blood products, antibiotics, and intravenous chemotherapy in the patient's own home. Pressures to control the costs of health care further encourage this movement of treatment

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modalities away from the hospital setting. All of this has resulted in the realization that a broader and more representative patient population is available outside the hospital than in it.

Our profession has a growing awareness of the need to take more positive steps to increase career interest in primary care and to relate the training of young physicians to the type of practice they will enter at the completion of their training. We have been paying lip service to society's need for generalists in our public policy pronouncements for more than two decades, but we have been unable to turn the educational apparatus in a direction that will produce general internists, pediatricians, and family practitioners rather than specialists, subspecialists, and super-subspecialists. I believe that our young physicians' prolonged exposure to hospitals, which have progressively become bastions of tertiary and quaternary care services, contributes to this dilemma.

We must argue, therefore, that academic medicine needs a system of clinical education that includes a strong grounding in the teaching hospital as well as a new dimension in ambulatory care education. To fulfill this education imperative, academic medicine must reshape clinical

education, and make it relevant to the educational needs and clinical realities of our time.

## Challenges to Academic Medicine

### Faculty

A change in the knowledge, skills, and attitudes of the faculty is a major challenge to academic medicine if it is to reshape clinical education. It will be necessary to identify and recruit a faculty committed to expanding meaningful educational activities in ambulatory settings. Even recently trained generalist faculty members often experience difficulties in shifting the locus of their teaching out of the hospital, and many traditional subspecialty faculty do not believe that education can take place outside the hospital at all. Many believe that the **ambulatorium** is not the place for medical education, and even if it were, they would not participate.

It seems likely that faculty for ambulatory care education will have to be recruited, at least in part, from among generalists in the community. This practice will raise questions about their competence as

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teachers and their ability to adjust to the academic culture. I would like to suggest, however, that the academic culture attempt to embrace this type of clinician/teacher. He/she represents a role model that has all but disappeared from our faculty, and as long as this type of faculty provides high quality teaching and patient care, this faculty should be honored much the way the academic establishment honors its productive researchers. In a sense, the recruitment and participation in medical education of a large number of practitioners parallels the early days of voluntary faculty in the teaching hospital. In contrast to this phenomenon, the new clinical faculty will utilize the more dispersed settings of the private physician's office or health maintenance organization. This dispersion, no doubt, will raise questions about the ability of the educational system to impose uniformly high standards of quality both in care and in teaching. I am optimistic that this can be done, but only if we convey a sense of identity with the academic medical center and its academic mission. All of these caveats mandate that integration of this new cadre of faculty must be accompanied by an active program of faculty participation and development.

As individuals, faculty who accept ambulatory teaching responsibilities must

receive appropriate academic rewards and recognition. I have long been an advocate of the two-platoon faculty system, which recognizes the contributions of the **clinician-educator**. This is particularly relevant in the ambulatory arena where the faculty will be primarily clinician-educators. How well these individuals are integrated into the overall faculty will be largely influenced by promotions and tenure decisions of the parent institution.

### Settings

The task of identifying settings in which expanded ambulatory care educational experiences might be offered is complex to say the least. Such settings include physicians' **offices** in private solo or group practice, HMO's, skilled and nonskilled nursing facilities, hospices, day care facilities for special populations (e.g., the elderly or handicapped), outpatient clinics, ambulatory surgery centers, and free-standing emergency facilities. While some of these settings might rightly be considered surrogate inpatient settings, their modus operandi differs radically from the classical inpatient exposure, which has been the vogue for nearly **100** years.

If this array of possible settings for clinical education seems daunting, it is no more so

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than the need that must be met: There are more than 30,000 students in the junior and senior clinical years of medical school and 75,000 physicians in residency training programs.

The identification of these new settings and the execution of affiliation agreements to incorporate them into the academic medical center raise a number of issues. Academic medical centers must accept responsibility for evaluating the preceptors and assuring that the educational experiences offered in these settings meet the standards of quality desired by the medical center and the various accrediting agencies that impose external standards on these centers. Because quality measurements are tied to hospital care, nobody, including accrediting bodies, has significant experience in dealing with nonhospital settings.

Beyond identifying potential settings for ambulatory education and devising the means for their affiliation, **academe** must enlist the participation and cooperation of those community physicians who are responsible for managing care in these settings. This will be no easy task, and its success is by no means assured. Many communities already experience "town-gown" problems, and these problems can be exacerbated as the academic medical center

is perceived as moving into new domains. Resistance on the part of practitioners may occur not only because of economic competition but also because these practitioners will be concerned about the effect of the new education construct on their patients and the quality of care they receive. Finally, the "arrogance factor," which is so much of the academic profile, must be mitigated to assure the success of these new teaching settings.

### **Patient Relationships**

**The** more the new ambulatory settings for clinical education are like private practitioners' offices and less like hospitals, the more we must be concerned about the relationships between patients, students, and faculty, and the effect that the introduction of education on a large scale will have on these new milieus.

The episodic nature of many student encounters will have to be deliberately mitigated. For the student-physician, it will be necessary to find a way to achieve the continuity of care that is an essential element of the patient-physician relationship. Something will have to be done to assure that trainees are available and involved when care is needed by patients with whom they have developed 'a

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professional relationship. From the patient's perspective, it will be necessary to ensure that the introduction of a student learner into his ongoing relationship with his personal physician is not disruptive and dysfunctional. In effect, the individual patient is being asked to become a participant in the medical education process. His cooperation and commitment to this mission are added dimensions to the educational experience.

## **Structuring the Learning Situation**

The faculty of academic medical centers should find the most exciting aspect of the move to expand ambulatory education in the opportunity to structure a new learning situation with new pedagogical concepts and techniques. This excitement could only be generated and sustained if innovation and creativity in education were more valued professional activities than they now appear to be in many of our academic medical centers. Unless it is possible to achieve a sense of professional commitment by the institution and its leadership, manifested by concrete professional and economic rewards, the educational challenges we face in the transition to new

ambulatory settings will be unfulfilled and frustrating.

A 1987 study by the AAMC on the transition of medical education programs from hospital inpatient to ambulatory training programs revealed greater recognition of a need to change than actual accomplishment of change. It appears that there has been more talk than action, and that much still needs to be done to provide a firm educational footing for medical education in ambulatory settings. I hope our faculties rise to this challenge and bring to bear on it the full weight of their considerable expertise and talents.

Faculty must address the content to be learned at each level of training in the ambulatory setting. While the clinical content will vary by specialty, of course, there are certain generic factors best learned in the ambulatory setting that are common to all specialties. These deal with the complaints that patients present in physicians' offices, which form an entirely different framework for education than is the case in the hospital. The flip side of this argument is the need to deal with the episodic nature of ambulatory care. What we need to learn is to link individual patient encounters with the evolution of disease and transmit information about the

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patient's health status over time. This may require supplementation of the ambulatory setting with simulated training environments.

In December 1986 the AAMC sponsored an invitational symposium on "Adapting Clinical Education to New Forms and Sites of Health Care Delivery." At that conference Steven **Wartman**, Director of the Division of General Internal Medicine at Rhode Island Hospital, described the content to be learned in an ambulatory setting. While his remarks were specifically directed to internal medicine, several of the following paradigms he outlined have applicability for other specialties:

- An ambulatory medicine knowledge base including a "clinical epidemiologic" approach, health maintenance and prevention, and community-based dimensions of care;
- An interface with other specialties such as geriatrics and occupational medicine;
- Applications of psychosocial medicine including training in communications skills, and focused clinical experiences;

- Humanities and social sciences such as medical ethics, medical sociology, and cross-cultural issues in health care; and
- Issues in medical practice including health care costs, utilization of tests and procedures, and health care epidemiology.

To Wartman's list I might add that the relatively isolated ambulatory care setting should become a particularly useful setting for encouraging young physicians to develop skills in medical informatics. Electronic medical literature databases, medical information systems, **computer-**assisted medical decisionmaking systems, and computer-based continuing medical education are all resources that might be incorporated into an educational program in the ambulatory setting.

In addition to educational content, attention must be given to other issues that characterize the ambulatory learning environment, including the pace and orientation of care, patient autonomy and independence, and the team approach to health care employed in some ambulatory settings. These characteristics require the development of different pedagogical models and a clear definition of learning objectives.



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Unlike the hospital setting, which easily permits residents to assume additional independence in patient care activities as their training progresses, graduated responsibility for patient care may be more difficult to assure, achieve, and monitor in the ambulatory setting. This has enormous implications for the development of housestaff into independent practitioners, a major goal of residency training. Another dimension of in-hospital training has been the maintenance of multidisciplinary educational links. This is needed even more in most ambulatory settings but is also more difficult to achieve. Nevertheless, we as educators must seek to provide cross fertilization of ideas and opportunities for exchange among the various specialities of medicine.

Attention to pedagogy is important, but this need must be balanced against the primary focus of delivering patient care that exists in most ambulatory settings. Clearly, the addition of students and residents to the ambulatory care environment results in loss of efficiency in delivering care. How much loss and at what cost in convenience, time, and energy to the patient and the attending physician are important considerations in developing effective teaching relationships in ambulatory settings. It seems unlikely that the transition to ambulatory education

can be achieved rapidly or painlessly. But if we achieve the ultimate educational goals of providing students and residents with an exposure to different patient populations with different health problems and needs, and to enable them to acquire new clinical skills, we should consider this a successful outcome.

## Evaluation of Students

The evaluation of the clinical skills of medical students and residents is not accomplished particularly well in many of our academic medical centers. For some time the AAMC has been working to assist schools in developing systems of clinical evaluation that are reasonable, fair, and workable. The association's most recent endeavor has consisted of seminars offered as part of its management education program. These seminars seek to assist individual medical centers in developing and implementing an appropriate system for evaluating and assessing the clinical skills of young physicians. If we have had difficulties in implementing adequate and effective evaluation systems in hospital settings, these **difficulties** are likely to be magnified in the ambulatory environment.

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Assessing the clinical skills of medical students and residents is a key component of an effective system of assuring physician competence. The teaching hospital environment should have provided an excellent setting for an ideal evaluation system that defines what is expected, observes performance, and reports on what was done and what needs improvement. Too frequently we find these elements missing even in the strongest medical schools and teaching hospitals.

Recognizing that evaluation needs are not always met poses a major challenge to our faculties. Traditional evaluation tools such as the essay question or the multiple-choice exam are not sufficient to provide the type of evaluation needed. We must identify new evaluation models that assure validity, reliability, and fairness, and that will enable our faculties to do a better job. A few years ago the AAMC undertook its clinical evaluation study and learned a great deal about how medical schools evaluate students' clinical learning ability and acquisition of skills. In the words of Edward Stemmler, then Executive Vice President of the Medical Center at the University of Pennsylvania and a recent AAMC chairman:

**What was** striking and unexpected, although it should not have been, was the lack of understanding by faculty **members** of what was expected of them as **evaluators . . . the** written **evaluations** recorded **about** each student's performance are essential to the understanding of the overall quality of each student. Yet many of the faculty members felt ... untrained for this task and unwilling to write negative evaluations even when they were quite willing to give negative evaluations verbally to the academic staff. In a community of scholars accustomed to making assessments based on objective **data**, few **faculty members seem to be** willing to write down their feelings. Yet, these feelings expressed by seasoned clinicians **about** developing clinicians are probably of great **value**.

Systems for evaluating educational accomplishments in ambulatory settings must include recognition of the unique aspects of **the** educational experiences in those settings. For example, what are the consequences of evaluation by a smaller number of physicians who might review the work of a medical student or resident in an ambulatory setting? How can a program assure consistency in evaluations when it consists of multiple training sites and encompasses a large number of participating physicians?

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Evaluation must occur against specific learning objectives. How to assess the experiences of individual learners must be put into the context of the educational objectives of the program. This places even more emphasis on the need to appropriately devise curricula for ambulatory education.

Too much attention has been focused on the costs and sources of financing for ambulatory education. I fear it is all too easy to be deterred **from** the task at hand by characterizing the financing problems as insurmountable. The fact is that the professional education of the physician must include far more ambulatory education than it does at this time. As educators, it is our responsibility to deal with that reality first, then devise the means for achieving what is professionally sound and pedagogically necessary, and finally find a way to pay for it.

Patient care in the ambulatory setting has traditionally been less well reimbursed than care rendered in the hospital setting, and the recent HCFA proposal to decrease outpatient reimbursement by 10 percent does not help. If the costs of providing ambulatory care increase because education is added to the ambulatory care setting, it will constitute both an important and

deleterious effect on health care delivery and on medical education. The marginal costs generated by adding an educational mission to the ambulatory care setting include not only a diminution in the productivity of the physicians practicing in such a setting, but also the capital expenditures required to equip ambulatory sites for teaching. At a minimum this might require additional consultation and examining rooms but could also include a library and teaching and study facilities. Another incremental cost may be for professional liability coverage, which is provided in the hospital setting, but may require special arrangements in ambulatory educational settings that are not traditionally affiliated with the academic medical center. Incremental costs may include the costs of replacing the service functions now performed in hospitals by medical students and residents and by individuals who must replace the students and residents.

In teaching hospitals, it has been customary for most major insurers to recognize medical education as a by-product of patient care and to accept medical education costs as an add-on to the overall cost of hospitalization. This does not occur in the ambulatory setting where physicians' charges are compared with a community average that does not acknowledge the

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higher expenses nor the lost productivity associated with educational activities. This requires identification of a source of financing the educational by-product in the ambulatory setting. This requires first of all the recognition by medical schools and their faculties that this need for added revenue is not solely a hospital problem. On the contrary, we must finally face up to the fact, which is a source of great dyspepsia to deans, that the appropriate source for such support must come from the individuals receiving the education.

For medical students the cost of ambulatory education should be borne by the core educational funds of the medical school. Tuition, endowments and gifts, and, in some instances, State-designated funds that are earmarked for educational expenses are the appropriate sources of support for ambulatory clerkships. Certainly, the use of core funds to support the education of medical students in the ambulatory setting is not unknown. The University of Washington, for example, has for years transferred medical school funds to ambulatory sites wherein students are based. Medical schools should have an identifiable and distinct budget for medical student education, and ambulatory education should be a legitimate and recognized component of such a budget.

For residents the situation is different. The resident physician is a contributing member of the professional team caring for patients. His ambulatory education should be supported by the same sources that support resident education in the inpatient setting. These include public and private health care payers such as Medicare, Medicaid, and health insurance companies. Faculty practice plans and hospital revenues may also need to be tapped, to the extent that the residents' activities contribute to their welfare. In order to expand activities in primary care, incentive grants from Federal or State sources should be made available.

## **Necessary Actions**

It is necessary for academic medical centers to take four actions in order to achieve the needed transition to increased clinical education in ambulatory settings.

- There must be an institutional and faculty commitment to provide the appropriate level of ambulatory care educational experiences for both students and residents as part of a physician's training. The faculty's commitment must include the goal to seek ambulatory care experiences, to integrate them into

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clerkship and residency training, and to participate fully in the educational activities offered in these settings. For the institution the commitment must be to recognize, reward, and value the contributions of faculty engaged in ambulatory education.

- Curriculum changes are required to recognize these new educational experiences as pedagogical opportunities requiring new definitions of learning objectives, renewed concentration on developing new curriculum content, and careful concern for the evaluation of the students and residents participating in ambulatory education.
- Model settings that may entail the formation of new relationships need to be developed. Speaking at a hearing of the Council on Graduate Medical Education in February of this year, David Greer, Dean of the Brown University Program in Medicine, urged the Government and private foundations to support pilot demonstration projects that appear to offer cost effective initiatives, and then to replicate those successful ventures. Before

that can occur, academic medical centers must develop these models.

- The financing issues must be addressed. While I strongly support the continuation of societal contributions for the education of resident physicians by means of third-party reimbursement, I call upon our medical centers to meet their obligation for the education of medical students by earmarking some of their resources to support the education of these students in ambulatory settings.

One of the great medical educators of our time, Dr. Eugene Stead, when confronted by a student or resident who had all sorts of excuses for not completing a task, delivered himself of the famous line: "Doctor, he was wont to say, if you are trying to tell me that life is hard, I already know that." This apocryphal statement is surely applicable to the issue of ambulatory education. There has been enough wringing of hands about the difficulty of devising ambulatory care educational experiences. We understand the difficulties, and we accept them. However, the time has come for academic medical centers not just to accept the need for change, but to facilitate that change. Medical educators

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must exercise their leadership to confront this difficult task, and engage it with the same vigor, imagination, and enthusiasm

that have been the hallmarks of American medical education.



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# Proposed Strategies for Fulfilling Primary Care Manpower Needs

Donald L. Weaver, M.D., Director, National Health Service Corps

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The NHSC was created by the Emergency Health Personnel Act of 1970 to improve access to primary care services for underserved populations. Through the placement of NHSC health care professionals, access was improved by removing some of the cultural, geographic, and financial barriers to care. In the first year of NHSC assignments in 1972, 182 volunteers were placed. Since 1974, when a scholarship program was added to the **NHSC**, over 13,000 scholarships were awarded to provide personnel to aid the underserved. The peak of NHSC scholar placements was in 1985, when over 1,600 health care professionals were available for service. By comparison, 123 scholars were available for placement in 1990, and only 74 will be available in 1991.

In the late 1970's and early **1980's**, several studies indicated that there would be an oversupply of physicians, and many felt that "diffusion" would bring physicians and other health care providers to serve the underserved. Given this information, there were cutbacks in the NHSC scholarship and field programs. In the late **1980's**, it became clear that "diffusion" was not working to meet the needs of the underserved in either the rural or urban/inner-city areas. The NHSC was facing a critical shortage of physicians. At the same time,

there was an alarming decrease in the proportion of physicians who were choosing primary care specialties.

Concerned about these trends, the National Advisory Council on the NHSC prepared a draft strategy to assist the NHSC in fulfilling its mission in the 1990's. This draft strategy was circulated to representatives of health care organizations that might cooperate with the NHSC to address some of the maldistribution problems. A conference was held where these organizations and the Council could interact to revise the strategy. The NHSC "white paper" is this revised strategy that was submitted to the Secretary to assist him as he implements his objective to improve access to primary care services to all Americans.

Since the most immediate needs of the NHSC are for primary care physicians, particularly family physicians, that was the group primarily addressed in the "white paper." The paper states that this is a paradigm that can be used for other primary care providers needed by underserved populations. There was a clear recognition by the Council that no one group of health care providers was going to solve the major public health problems of the underserved.



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The “white paper” calls for a continuum of contact with those interested in pursuing a career in primary care, students who have committed to a career in primary care, and health professionals who are providing or teaching primary care. It challenges each of us to be part of the solution in very specific ways. Using the medical paradigm, the ways in which we are challenged to become involved include the following:

- **Student Selection.** We must all work with young people in our communities to encourage them to consider a career in primary care. We must assure that the admissions committees of our medical schools have an appropriate number of primary care providers on them, advocating for students who are more likely to choose a career in primary care.
- **Mentoring.** We must assure that all students have access to a primary care mentor who will encourage a career in primary care and assist the **mentee** in obtaining experiences that will enhance that career choice.
- **Medical School.** Students need early and continuous exposure to

primary care and service to the underserved. They need experiences that will focus on a community orientation to primary care, seeing both the individual and community as their “patients.” The principles of public health and prevention need to be interwoven in their primary care educational experiences. Early in their medical education, working with their mentor, medical students should have community-based health promotion and disease-prevention experiences that are consistent with their level of training. In the clinical years, rotations serving underserved populations must also be an integral part of their educational experience.

- **Residency.** We must stay in contact with residents throughout their training, providing longitudinal and community experiences as an integral part of their education.
- **Retention/Current Providers.** We must look at what it takes to keep good providers in service to the underserved. The current cadre of primary care providers serving the underserved is a precious human

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resource that must be developed and nurtured. From leadership training, to faculty development, to support for continuing professional education, the NHSC must continue to keep high quality providers in public service.

- **Recruitment.** We need to continue to actively recruit additional primary care practitioners for service to the underserved. We need to utilize loan repayment, volunteer, and NHSC scholarship program resources in this recruitment effort.
- **Alumni.** There is a large group of former NHSC providers who are

now in various positions in patient care, education, and research. We need to tap into this resource by asking them to serve as mentors and provide assistance along this continuum of contact.

This is a brief review of the contents of the “white paper.” The challenge is an exciting one as we look toward a revitalized NHSC. Revitalization is described as the process of imparting new life or vigor. With the tremendous needs of the underserved in this country, we must each do our part to breathe new life into the NHSC. The NHSC “white paper” is a challenge to each of us to do what we can to see those most in need obtain access to primary care services.



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# Barriers to Equity in Access for Racial/Ethnic Minorities

David Satcher, M.D., Ph.D., President, Meharry Medical College

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## Introduction

I am honored to be a speaker at this very important Conference. At a time when there is so much talk about health care system reform, we are reminded that the major challenges facing the health care system in the 1990's and beyond are access, cost, and quality. The health problems and unmet health needs of minority communities are unique and deserve attention. Therefore, it is timely that today I will speak about minority access to health care.

## Minority Health Status

The status of minority health in this country is an indicator of the pressing need to improve access to health care for minorities. For too many blacks and other minorities today, good health is not a reality. Some years ago, following several encounters with the Association of Minority Health Professions Schools and others, then Secretary of the DHHS, Margaret Heckler, set up the Task Force on the Health Status of Blacks and Other Minorities. After many interviews and much research, this task force reported their findings on October 15, 1985. Their findings, as

reported by Secretary Heckler, were of no surprise to those of us who had followed this issue of health status of minorities on a day-to-day basis. The study revealed that there is a significant and persistent gap between the health status of black Americans as compared to whites in this country and, in some ways, that gap is widening. Secretary Heckler pointed out that there continues to be a significant gap in life expectancy between blacks and whites in this country, such that the average life expectancy for blacks is 6 to 7 years less than for whites. In addition, the report pointed out several areas where there were significant gaps in health status, including the fact that infant mortality continues to be twice as great among blacks as among whites, despite significant progress in this arena since 1950. In addition, cardiovascular diseases, cancer, cirrhosis of the liver, homicide, diabetes, and several other factors contributed to this significant gap in health status. But the disturbing bottom line of that report was that every year in this country, 60,000 more blacks die than would if blacks had the same age and sex adjusted death rates as whites.'

A 1989 report entitled "A Common Destiny: Blacks and American Society," which was prepared by the National Research Council (NRC), shows that,

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relative to black health status, not much has changed. It reveals that wide gaps in the mortality and morbidity of blacks compared to whites persists at all ages, except among the very old (85 and older), and that while infant mortality rates have dropped steadily since 1940 for both blacks and whites, the odds of dying shortly after birth are consistently twice as high for blacks as for **whites**.<sup>2</sup> In addition, a recent report by the National Center for Health Statistics shows that black life expectancy actually declined between 1984 and **1987**.<sup>3</sup>

Though data are less prevalent, other racial and ethnic minorities, especially Native Americans and Hispanics, face serious health risks. Hispanic males die from homicide at a rate 6 times higher than their white counterparts.' The death rate of Native Americans from alcohol, pneumonia, diabetes, and other conditions is so high that for every 100 persons who die before age 45, 43 would have lived had Native Americans enjoyed the same health and access to health care as do whites.'

Until this country makes a commitment to solving these problems, the gap in the health status between minorities and whites will not be closed. Good health care will, in fact, not be carried out as a right.

## Major Components of Access to Health Care

The persistent disparity between the health status of blacks and whites is a disgrace to our Nation; and given this health status disparity, it should be a national concern that there is also a significant disparity in access to health care between minorities and whites. Access to health care is one of the major challenges facing the health care system in the 1990's and beyond. In a brief report by **Blendon**, et al., in the January 13, 1989, issue of *The Journal of the American Medical Association*, entitled "Access to Medical Care for Black and White Americans: A Matter of Continuing Concern," it was stated that:

A 1986 national survey of use of health services shows a significant deficit in access to health care among black compared to white Americans. In addition, the study points to significant underuse by blacks of needed medical care. Moreover, blacks compared with whites are less likely to be satisfied with the qualitative ways their physicians treat them when they are ill, more dissatisfied with the **care** they receive when hospitalized, and more likely to believe that **the** duration of their hospitalizations is too **short**.<sup>6</sup>

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Relative to access to health care, we must look at the three components of affordability, availability, and acceptability.

### **Affordability**

- The underrepresentation of minority health care providers effects access through affordability because these providers are those most likely to accept Medicaid.
- The previously mentioned 1989 NRC report reveals that despite expanded health services, blacks and other minorities, most of whom are on Medicaid and uninsured, still have unmet health needs; 22 percent of blacks and 14 percent of whites under age 65 have no private health insurance or Medicaid coverage.'
- Medicaid coverage has been so severely eroded by tightened eligibility requirements and meager funding that by 1984, only about 40 percent of the poor and near-poor were enrolled in the program-down from 65 percent in 1976.<sup>8</sup>
- Children were hardest hit by these Medicaid cuts. Two-thirds of all poor children are not covered by Medicaid;

funding for other mechanisms for delivering health care to this vulnerable population-among them, community health centers and child nutrition programs-has withered in recent years as well.<sup>9</sup>

Any reforms relevant to the affordability component of minority access to health care should include such strategies as expanding the Medicaid system, developing an open system of national health insurance, or providing incentives for employers to provide comprehensive health insurance.

### **Availability**

Minority health care providers are severely underrepresented, and minority health status and access to health care are related to and dependent upon increasing the number of minorities in the medical profession.

Black Americans and other minorities are losing ground in medical education. The underrepresentation of minorities in the health professions is viewed by most as a significant national problem. For example, while black Americans constitute almost 12 percent of the population, they compose less than 3 percent of the physicians, dentists, pharmacists, and other health

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professionals in the country today. Similar figures apply to most other minorities.”

Not only is underrepresentation of minorities a reality, it is clear that this problem is not getting better and that if we are not careful it could worsen. In 1969, a major national effort called Project **Seventy-five** was launched to increase the proportion of minorities enrolled in medical schools with respect to their proportion in the population.” Significant progress was made, and the enrollment of black Americans in the first year of medical school has grown from 4 percent in 1969 to 7.5 percent in 1975-76 and from 2.8 percent overall enrollment in 1969 to 6.3 percent in 1975-76. Since the 1975-76 year, however, there has not been a significant increase in the enrollment of black Americans and other minorities in medical schools throughout the country. In fact, there has been a slight decline, despite the fact that the percentage of black Americans in the applicant pool has not decreased but has increased slightly.\* (This is not to imply that the applicant pool is not a major problem and concern both in terms of quality and quantity. The minority pool has not grown significantly but also has not declined as rapidly as the majority applicant pool.)

Physicians who target neglected segments of society would help to prevent expensive chronic health problems. Several studies, including the one by Stephen N. Deith, et al., in the December 1985 issue of *The New England Journal of Medicine*, have demonstrated that minority health professionals are more likely to practice in underserved communities and to care for minorities and the **poor**.<sup>13</sup>

Second, black Americans and other minorities are overly represented among **underserved** groups such as:

- Women and children—20 percent of all women (and 40 percent of all nonwhite women) in this country who were pregnant in 1987 did not see a physician in the first trimester of **pregnancy**.<sup>14</sup>
- The **elderly**—our health care system has not adequately addressed the major threats to their well-being, such as the need for home care, day hospitals, or long-term care.
- People who live in areas where access to health professionals or health institutions is severely limited. For example, in inner-city or rural areas,

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the number of underserved is estimated to exceed 30 million.

Any reforms relevant to the availability component of minority access to health care should include both short- and long-term strategies. A short-term strategy, relative to underserved communities, would be to offer incentives and support to existing health care providers; for example, making it possible for them to network by setting up information management systems in rural areas that allow the same access to medical information that urban counterparts possess. A long-term strategy, relative to underrepresentation of minority health professionals, would be to do what is needed in education to recruit, train, and retain minority health professionals who are more likely to work in underserved areas.

### **Acceptability**

Racism has been as much a problem in the area of health care as it has in the areas of education, public service, or any others. From the Tuskegee Syphilis Study to the 1964 suit against a North Carolina Hospital for excluding black physicians to Meharry's exclusion from Nashville's city and Veterans Administration (VA) Hospitals, racism has been a factor in health care. Relative to class bias, private physicians

usually do not accept Medicaid/Medicare or other low-income patients and, unfortunately, at many public facilities, health care providers treat patients with incompetent, insensitive, domineering attitudes that create despair. Many blacks and other minorities may feel that health care providers who do not speak their language or are not of their culture or race are insensitive to their needs. Specifically, many minority patients have expressed not only distrust of majority providers but also distrust of interpreters. Though some may feel that interpreters are real assets, many patients feel that they cannot rely on the interpreters to relay to the provider exactly what 'they are **being** told to relay.

For these reasons, blacks and other minorities may delay seeing a health care provider, thereby exacerbating their health problems. Thus, the necessity for improving the representation of minority health professionals is evident.

Any reforms relevant to the acceptability component of minority access to health care should include thoroughly educating and sensitizing health care providers to respond to community health needs in the following ways:



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- Ensure that students in the health professions are given experiences that strengthen their commitment and motivation to serve where the need is greatest. This is not easy in a society where less than one-half of the people below the poverty line are eligible for Medicaid insurance. If not publicly funded, most hospitals that serve a large percentage of poor people in underserved communities have an ongoing financial struggle.
  - Recruit, motivate, and develop students who are more likely to serve in poor areas. The likelihood that a physician will settle in an underserved community is greatly influenced by what happens before he or she gets to medical school. The physician who comes from, has grown up in, or has experience in underserved communities is more likely to consider practicing there. This means that selection of students with a clear commitment to the underserved is one of the most important approaches that medical schools can take to address the problem.
  - Develop curricula that allow relevant experiences and include training programs that allow time for students to work with faculty in **underserved** rural and inner-city communities.
  - Provide, early in medical education, training that allows the students to gain an understanding of how cultural, religious, economic, and other factors affect health, health belief systems, health-care-seeking behavior, and response to treatment. They should also begin to gain some expertise in behavior modification. This can definitely be done in a regular, continuous program of interaction in the community from which patients are derived. The best example is probably the family clinic program at Case Western Reserve University, which has now been in place for the last 25 years. Students are involved with patients from the beginning of their medical school training. This early involvement focuses on understanding the patients' background and environment, the etiology of health problems, barriers of access to health care, and interactions in the health care system.
  - Allow students in their clinical medical training years to participate in a range of health care delivery including home health care, the ambulatory clinic, the

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hospital, and the nursing home to emphasize continuity and balance.

Also, blacks and other minorities should be educated about health needs and available health services.

In all of the deliberations about possible health care reform, relative to health care's three biggest challenges—access, cost, and quality—we must keep in mind that any reform aimed at the access issue in isolation is destined to fail. Access is necessarily affected by cost and quality. For instance, health care cannot be made accessible with the existence of runaway health care costs that people cannot afford. Also, health care will not be accessible to many until we in this country cease to equate technology with quality and emphasize health promotion, prevention, and control relative to quality of care.

Relative to health reform and its access, cost, and quality, in an article published in *The New England Journal of Medicine* entitled “Universal Entitlement to Health Care: Can We Get There From Here?,” David Kinzer stated:

In looking at the **primary concerns**—access, quality, and **cost**—it is **difficult to find any move designed to solve one of**

the problems that does not have sometimes unforeseen effects on the other two. For example, the widespread tendency of States to pay physicians' subliminal fees under Medicaid has probably saved some money, but it has also played havoc with physicians' participation, with the side effect of limiting access to care. To the extent that such policies have encouraged substandard “Medicaid mill” operations, such as those recently exposed in Chicago, issues of quality are also involved.

There can be no question that the mounting public concern about quality of care in our hospitals has been triggered in a large part by cuts in the length of stay due to the incentives of DRG-based payment. The American Medical Association did nothing to disabuse the public of its belief in the connection between money and quality, when it announced the results of a study revealing that one in eight physicians was providing less care to Medicare patients as a result of the Federal effort to reduce doctors' fees.

Some regulatory strategists still seem to believe that reducing the number of hospital beds is the best way to reduce overall expenditures for hospital care. When this strategy has worked (and it has not worked very often), one result has been a critical shortage of nursing home beds and home health care services—a problem in quality that now has high

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visibility in Congress and in Statehouses across the Nation.”

## **Impact of Poverty on Affordability, Availability, and Acceptability**

Without question, one who is a black American or of another minority group in this country is more likely to be poor. In fact, while 12 percent of the population fall below the poverty line, 33 percent of blacks, 50 percent of which are children, do. Therefore, the issue of health care for the poor is relevant to the question of the health status and the access to health care of black people and other minorities in this country.

When Secretary Heckler reviewed data yielded by the previously mentioned 1985 minority health status study, she pointed out that it implied that blacks and other minorities needed to improve their lifestyles. While I agree with this, I would go much further and point out that there is a serious need in America for us to realize the relationship between poverty and poor health. As long as there is a high rate of poverty among blacks and other minorities, there will be poor health.

At the National Conference on Health Care for the Poor and Underserved at **Meharry** Medical College in 1985, the lead speaker and renowned epidemiologist, Dr. M. Alfred Haynes, related major health problems to poverty when he declared, “poverty **kills**.”<sup>16</sup> While there has certainly been extensive documentation for the effect of poverty on health status, which is indicated by such measures as morbidity, mortality, and infant mortality rates, it has also been recently documented that black Americans of the same socioeconomic status as whites are still at greater risk for deaths from hypertension, cancer, cardiovascular disease and stroke, diabetes, and infant mortality than their white counterparts. Though less data is available, certain other minorities are also experiencing such adverse outcomes.

Let us consider the ways in which poverty becomes a barrier to minority access to health care through its effect on affordability, availability, and acceptability.

### **Affordability**

- Black Americans and other minorities are more likely to have low-paying jobs and to live below the poverty line.

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- Black Americans and other minorities are more likely to live in single-parent homes and, therefore, are less able to afford health care.
  - In 1987, some 37 million **Americans**—one-third of them poor—had no health insurance.” Yet a sizable portion of the uninsured fall above the poverty line, and roughly 60 percent are employed or are the dependents of the employed.<sup>18 19</sup> Many of these people have employers who fail to provide health insurance, either because of the high cost of premiums, or because their priorities are directed elsewhere. When employees cannot obtain health insurance in the workplace, the entire burden of financing such coverage falls on the family, which then often faces the difficult dilemma of selecting to pay for either health insurance or some other basic necessity, such as food or clothing. By choosing the latter, a family may place itself at high risk of being financially disabled by a medical catastrophe.

#### Availability

- Minorities are underrepresented in the health professions as compared to their population percentage, which is

important since access to care for minorities and the poor increases with the availability of minority providers.

- Those few minorities in the medical profession face increasing debt burdens due to decreases in scholarships and other kinds of private/public sources as well as increased tuition costs. Also, programs like the NHSC, which did so much to help minorities, no longer exists.
- The Council on Graduate Medical Education (**COGME**) states that “The mean debt levels of indebted minority medical school graduates who borrowed money to pay for their medical education nearly tripled between 1980 and **1988**, from \$18,350 to **\$48,729.**”<sup>20</sup>
- This debt burden has caused a decline in the minority applicant pool for medical school, and it may cause physicians to opt for high-paying positions that are not likely to be found in underserved areas.

#### Acceptability

Anthropologist Oscar Lewis has identified and defined the pattern of life developed by the chronically poor to cope with their

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condition as the “culture of poverty.”<sup>21</sup> In order for health professionals to help improve the health status of minorities and the poor, they must realize that, relative to health care, the poor will not necessarily act according to others’ notions of responsibility and that the “culture of poverty” dictates that:

- Health care becomes a low priority, because poor people concern themselves with the more immediate problems of day-to-day survival.
- To survive, poor people become present-time-oriented as opposed to future-time-oriented. Unlike the middle class, whose orientation is toward deferred gratification, the poor, in living under such adverse conditions, have not learned the value of deferring. So, the need for health care-especially in the areas of prevention and early diagnosis-often compete with the need for essentials, like food and clothing.
- The general feeling of powerlessness and hopelessness acts as a barrier to the poor seeking help in all areas of health care, including prevention, family planning, and dental.

## Conclusion

Hopefully, relative to access to health care, the unmet needs of black people and other minorities in this country will be addressed. But, in order for this to happen, we must recognize and curtail policies that unfairly prohibit access to health care services for the underserved of this country. My recommendations are as follows:

- Despite the many barriers that we face today in increasing the representation of minorities in the health professions, we must continue to make the goal of equal representation a national priority.
- Today, America is the only industrialized country, other than South Africa, that fails to provide universal access to care regardless of ability to pay. We can no longer afford this distinction. Investment in the health of our people must be viewed as a prerequisite for national security in the 1990’s and beyond.
- In the entire spectrum of our massive expenditure for health care, we must move health promotion, disease prevention, and early diagnosis to the “front burner” of priorities.

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- Acknowledging that racism, ethnic, and class biases have been as prevalent in the area of health care as in any other area of endeavor, we must recommit ourselves to the complete eradication of these injustices.
  - Since it is clear that “poverty kills,” programs to upgrade the standard of living for all of our people must remain a national priority.

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# Creating Synergistic Solutions: A New Public/Private Partnership

William L. Roper, M.D., M.P.H., Director, Centers for Disease Control

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I am delighted to be with you. As Bob said in his introduction, I was first invited to do this about a year ago, but when Ron **Carlson** recently called to ask if I would give this talk, he said, “since you just left **HCFA**, I would like for you to talk about issues that are closely related to health care financing and perhaps add some additional perspective given what you are now doing at the White House.” Things have gone a little further than that, but I will attempt to give you the **HCFA-White House-CDC** American view of all of these issues.

It is a pleasure to be with Bob Harmon. As he said, we have had many contacts through the years. He and I were both local health officers conspiring in the National Association of County Health Officials back in the late 1970’s and early **1980’s**, and even before that, we were both radicals in the House **Staff** Association movement. He preceded me by a couple of years as president of the University of Colorado House Staff Association.

You have heard from many experts about professional education and access to primary care services and the many aspects of this subject. I deny being an expert on those subjects; therefore, I promise not to reiterate what others have said, but instead talk about public/private partnerships

dealing with these important national problems.

We need to address not just medical education for minorities or medical education directed at solving the problems of the underserved, but a much bigger issue: How we are going to reform our health care system in America? Perhaps we can talk briefly about some public/private partnerships in that important enterprise.

If we really want to solve **the** problems addressed in the last few days of this meeting, we must have the courage and the creativity to pursue fundamental reform of the Nation’s health care system. It will neither be easy nor quickly resolved, but it is a task we all need to step forward and deal with directly. Our health care system has a series of familiar problems-cost, quality, and access. Since you focused particularly on the questions of access in this meeting, it is worth mentioning that it is high time we in America told the truth: Our infant mortality rate is embarrassing. Our infant mortality rate is related to a great degree to the lack of access to the important prenatal services that women need to deliver healthy babies. We need to grapple with how to rectify that situation in a sensible way.

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In America, the financing and delivery of health services is a pluralistic system—a public/private partnership. **We** are debating about reforming our system. Earlier this month, we received the first installment of a series of studies that will be reported this year by the Pepper Commission, chaired by Jay Rockefeller (D-West Virginia). Although Senator Rockefeller was able to convince more than half of the members to agree, there were important dissenters from the majority report of this Commission. I salute Senator Rockefeller’s courage and determination to forge ahead, despite the lack of unanimity on the subject; but the discussion since their report was unveiled typifies the problems that we face: lack of consensus about some important issues and uncertainty of how to make further progress.

Later this year, Deborah Steelman, chairman of the Quadrennial Council on Social Security, will issue a report **from** her council examining many of the same issues. If I am correctly advised, they do not have unanimity in their quest for solutions to these problems either. Finally, at the end of January, the President asked Secretary Sullivan to study these reports and others to determine what the Administration should be doing about the important issues of cost, quality, and access to health services.

Undersecretary Connie Horner and others are still grappling with those issues.

Smart people are thinking carefully about these difficult problems. What we lack in this debate about America’s health care system is not good ideas, but a public consensus, or even a political consensus, on how to make the difficult choices necessary to begin fundamental reform of our health care system. I believe the American public is still committed to a “more is better” philosophy about health and is largely ignorant of, or unwilling to consider, the difficult trade-offs that lie ahead. We can learn important lessons from the “catastrophic” catastrophe legislation that was passed in 1988, and speedily repealed in 1989, when the message got out to the important parties, namely the senior citizens of this country, that they were going to have to pay for something. They stampeded Congress and demanded that the legislation be repealed and Congress did just that. The lesson from this is that if we intend for this reform of the health care system to be effective, we must debate it before the public to encourage them to make these difficult choices. We need to explain to them that there are no free lunches here or elsewhere in American society. If we are going to bring the **30-**some odd million Americans without health

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insurance fully into our system, it is going to cost a lot of money, and it has to come from somewhere. It may come from public budgets or from private budgets, but it must come from somewhere, and we need to take this seriously. The only thing I would fault Senator Rockefeller for is that the Pepper Commission did not face that vitally important part of the equation in their discussion.

Secondly, I think we have to debate the question of the trade-off between the costs of care and access to care. We are kidding ourselves and the American public if we seriously believe that we are going to take over 30 million Americans and buy their access to our health care system at the same per capita cost that we now spend for the other 200 million Americans; it is not going to happen. Therefore, we must find a way to limit the costs of care to everyone in order to buy access for those who do not have it now. That is very difficult to talk about in polite company-especially in Washington-but we need to continue to discuss and share ideas and be willing to take comments and criticism from others. However, it is difficult to do that in our current state of political affairs. This week the New **York Times** ran a series of articles on the paralysis of our political system and the difficulty that we have raising and

dealing with serious issues. People like to deal with things in glib terms and through public opinion surveys. In general, I think that criticism of our current political state of affairs is appropriate, but I find it encouraging that we are occasionally able to deal seriously with important issues. I point to an indirect health issue, i.e., the clean air legislation that is wending its way through Congress, about to pass the Senate, soon to be fully before the House. We are seriously debating how much to spend, public and private, to further clean the air of toxins and smog and also to diminish the problem of acid rain and other pollutants. That is a hot debate where real issues are being raised and discussed, and tradeoffs are being undertaken. If that can happen this year, then I have to continue to be optimistic that we can accomplish health care and health reform in America. It will be incumbent on all of us to begin raising serious proposals and be willing to debate them.

As we undertake such a debate, there are some issues that I strongly feel we need to consider. I have been alluding to one of the issues already: If we are going to entertain the idea of health care reform, we must consider the aspects of public health, prevention, etc., in the context of reforming our health care system. We have a system

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of public health in this Nation. Bob Harmon and I and others of you have perhaps been privileged to work in State and local health departments. Recently, the Institute of Medicine (IOM) issued a report that will have an important effect on our efforts to build a better system of public health agencies in this country. The IOM report said that until we reform our health care system, official agencies at the State and local levels are going to continue to provide much of the care for the poor and the underserved. Therefore, if we are serious about reforming health care in America, we have to remember the role of official agencies and the many important volunteer groups that are a part of our public health system. Reform to strengthen public health across the country is a major priority of mine at the CDC. The CDC has a long-standing leadership role in outreach to State and local health departments, and that is one of the major things that I am going to be working on during my tenure.

This public/private partnership is especially important as we discuss the roles that local, State, and Federal governments play in our health system, in health care, and in medical education. In addition, while we talk about reform and the public/private partnership in health care and public health,

we have to consider that there is not going to be a huge peace dividend and large amounts of money coming from Washington to do whatever is necessary. That is not going to happen. Because of relaxed international tensions, we will be able to turn our view toward the domestic scene and spend marginally more money than we otherwise would on domestic programs; however, I do not think we are in for another surge like we had in the late 1960's or early 1970's. So we should all be planning for the future. It is going to be incumbent on each of us to make the best case for the allocation of available funds.

Second, as we debate these issues of health reform in America, remember that improving access to care must also mean improving access to preventive health services. We tend to focus too much of our attention on the tertiary-level services. We need to continue to remind ourselves of the importance of preventive services through such efforts as the Preventive Services Task Force, which last year gave us a guide to clinical preventive services designed to recommend to practitioners in the field those methods that work in the practice of preventive medicine. I have pursued this question of what works in the practice of medicine since I was at HCFA

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and stress the idea that we should have better information on effective medical practice. Jarrett Clinton, now head of the new Agency for Health Care Policy and Research, is pursuing a research agenda in that field and will be developing guidelines for advising medical practitioners. Here is advice in the field of prevention. I hope that all of you who are concerned about the field of primary care will also consider the idea of learning better what works in medical practice or medical treatment effectiveness, as it is most often called these days. One of the things I hope to do at the CDC is to lead an effective initiative for preventive services to build on the work already done to extend the quest for knowledge about what works, not only in preventive services in the clinical setting, but also as far as mass media campaigns. For example, we are spending millions for public education on HIV infection and AIDS; yet are we really changing behavior. We need much better information on effectiveness in prevention.

A third issue that we must consider as we conduct health reform in America is

minority health problems. It is especially timely that Secretary Sullivan, at a recent press conference, unveiled *Health United States 1989—last* year's health statistics for the Nation published by the NCHS. The report not only highlighted the progress we have made as a Nation in improving health but also revealed the obvious, troubling, and embarrassing health disparities among minority populations. We have to focus on that as we are trying to move toward the goals of the year 2000 for health in the Nation. I think that should be guiding us as we undertake our efforts to reform health in America.

In closing, from my three recent positions—first at HCFA, then at the White House, and now at the CDC—I am convinced that there are people of goodwill across the country who are anxious to be involved in this reform effort, and I hope all of you will be persistent and forceful and not leave it unresolved because we as a Nation need to take this issue seriously.



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# Remarks from the Rapporteur

John K. Iglehart, Editor, Health Affairs, Project HOPE

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It is obvious to anyone who studies health care systems in the industrialized world that they all reflect the culture, values, and politics of the country in which they evolve. In other words, the American health care system did not arrive where it is today by accident, but rather by the convergence of a wide variety of forces. We may be troubled by the shortcomings of the system, but they should not be blamed on high medical costs, greedy physicians, or a brand of social Darwinism that seems, at times, quite harsh. The system is a product of a highly dynamic, pluralistic, free enterprise society. And if we as members of American society espouse to change it, the change must reflect these values, which are deeply held and widely admired, not only in the United States, but around the world.

There is perhaps no service in our society that we treasure more highly than medical care. We spend more money than any other country on medical care, about 38 percent more than does Canada on a per capita basis, and Canada now operates the second most expensive system in the industrialized world. Indeed, in this context, the United States has become very much of an **outlier**. During the **1980's**, our major Western allies, or perhaps it is more appropriate to characterize them as

competitors in world markets—Canada, France, Japan, West Germany, and the United Kingdom—demonstrated relative stability in their health-to-gross domestic product ratios. Health costs in the United States, on the other hand, continued to outstrip the growth of national income, thus consuming evermore resources that could, perhaps, have been spent more efficiently in cleaning up the environment, improving our education system, or rebuilding the Nation's infrastructure.

America's health care system is financed predominantly through the private sector with private resources. For every \$100 spent for American medical care, about \$58 is derived from private sources and \$42 from public budgets. As a consequence of this funding flow and Americans' fear of giving the Federal Government too much power, the way we allocate the bulk of our medical care resources reflects the more narrow interests of the private sector than some of the broader public interests that have been discussed at this Conference.

Dr. Leighton Cluff mentioned in his opening talk that about 70 percent of the United Kingdom's practitioners are generalists and the remainder medical specialists. In Canada, about 50 to 55 percent of its physicians are general **practitioners**—



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primary care doctors who represent points of entry for most people who seek care. In contrast, about 70 percent of the physicians in the United States are specialists. Only 30 percent are generalists, which as a proportion of the whole seem to be diminishing by the day. There seems to be little question that the American approach, heavy as it is on specialism, is a more expensive approach than that adopted by other industrialized nations. A question that has not been thoroughly examined is, what difference does it make clinically that a lot of primary care is delivered by specialists and subspecialists? We can perhaps demonstrate that it is more expensive, but is it more or less appropriate clinically?

Often when I cite foreign comparisons, people question their relevance. I recognize that foreign comparisons have limited utility, so let me compare the ratio of generalism to specialism in a genuine American context-the HMO model. An organization like the Kaiser Permanente Medical Care Program, with 6.3 million voluntarily enrolled members in 13 regions across the United States stretching from Hawaii to Hartford, **CT**, maintains a balance of about 50 percent primary care or generalist doctors and 50 percent medical specialists. The program has calculated,

after about 50 years of successful operation, that the SO-50 balance is more appropriate for serving its members. Kaiser **Permanente** operates a privately planned system and a 50-50 balance of generalist-specialist physicians that is worthy of study.

The American health care system, because it is private and pluralistic, suffers from a variety of disconnections. One of those disconnections is whether or not the Nation's 127 medical schools are educating new physicians to fulfill roles that are genuinely needed in society. Another disconnection is that many private organizations function for their own private purposes, not for the broader public good.

Dr. Cluff mentioned in his opening remarks that the LCME, when it accredits medical schools, should consider whether or not these institutions are providing medical care to a portion of the community in which they operate. I would submit that the public policy community does not even know what the LCME is, much less how it might become more socially aware.

I share Mike Holloman's expressed frustration and despair toward the United States' slow achievement of some of its long-stated social goals that remain to be implemented. But I think some progress is being made in

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building a consensus toward broader access to care for all Americans. As evidence, the Pepper Commission and the AMA, two bodies, one public and one private, with very different philosophical outlooks, recently declared that all Americans should have access to care and the bulk of that care should be provided through one's place of work. Obviously, there are many details that need to be ironed out, but if the Bush Administration weighs in with a similar recommendation, or at least does not seek to block this approach, we may be on our way to broader coverage.

Within this framework of **employer-**provided health insurance coverage for the employed and Government-supported care for those who lack financial means, very little attention has been paid to primary care and who will provide it. I absolutely agree with Dr. David Sundwall who said that **primary** care is not really on the health policy agenda. Everyone attending this Conference is undoubtedly a strong advocate of primary care and the need to educate more physicians who practice that kind of medicine; but beyond this Conference, there is little understanding of how woefully inadequate our capacity is to provide primary care. The subject simply does not arise in the broader framework of public policymaking, the framework in

which the United States will eventually decide how it is going to provide access to all Americans. The focus of the debate is around financing and the view of most policymakers that if a way is found to finance care for those individuals who are currently uninsured, the problem will be solved. The inadequate number of primary care physicians who could provide that care is a subject that is never discussed by Federal policymakers.

In the remaining time, I will address the points of leverage that advocates of primary care might exploit in their efforts 'to promote these services. I believe strongly that primary care advocates have done a poor job in striving to explain to third-party payers-both private and public-why more attention must be paid to educating more medical generalists. The Kaiser Permanente Medical Care Program is in the process of hiring about 1,000 new physicians over the next year to provide care to its 6.3 million members. Kaiser-Permanente, not unlike most other private organizations that provide and finance care, is having a **difficult** time finding enough well-trained primary care doctors to fill these positions. Kaiser is on the demand side-as is Blue Cross and Blue Shield with its national network of **HMOs** and a variety of other organizations-and they could become very

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strong advocates for primary care if they were activated to be so. To date, the demanders of primary care have not become involved in changing the equation that may well serve academic teaching department chairmen but is falling short of fulfilling society's needs-70 percent medical specialists and subspecialists and only 30 percent medical generalists.

One of the more encouraging new developments is the arrival of Dr. Louis Sullivan as Secretary of the DHHS and also the appointments of Dr. James Mason as Assistant Secretary for Health and Dr. Robert Harmon as HRSA Administrator. In the Department's history, there have never been three figures more committed to primary care holding these posts than are Drs. Sullivan, Mason, and Harmon. That is important for the primary care cause, and it certainly represents a point of leverage within the Federal Government on behalf of primary care.

I applaud both the Department and HRSA for convening this Conference. But, as an independent observer who always strives to place situations in realistic contexts, I feel compelled to suggest a political context for this Conference, at least politics as they are practiced within the beltway. The HRSA is an agency that has taken a beating every

year in the 1980's as it has sought to promote primary care and to continue funding Title VII programs that support this purpose. Every year during the Reagan Administration, the annual budget had called for a zeroing out of Title VII programs because they were deemed unsupportive of an appropriate Federal role. Well, Mr. Reagan has moved on, the HRSA lives, and now the prospect of promoting primary care within the Government has improved with the arrival of Drs. Sullivan, Mason, and Harmon. While the HRSA lives, it is also not suicidal. Note how carefully the title of this Conference is crafted, how explicit and how limited its scope. This seemingly minute detail is a symbol of the balance the HRSA has sought to achieve as it moves through this political mine field of sorting out what are appropriate and inappropriate activities for the Federal Government to engage in in an era when the electorate seems to prefer a limited Washington presence in their lives.

Dr. Sullivan's remarks underscored the priority that he attaches to increasing the number of minority health professionals and sustaining faculty at minority medical institutions. In the process, he underscored the binding linkage between maintaining an adequate cadre of minority health

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professionals and access to care of minority populations. I would assert that Dr. Sullivan is the first Secretary of the **DHHS** to champion primary care so early in his stewardship. And that, indeed, is a point of leverage for primary care advocates.

Dr. Sullivan declared himself on behalf of an initiative, the genesis of which I believe derives from the Congress. He said, "I am proud to acknowledge the paternity of this \$117 million endeavor," the endeavor being a legislative effort to bolster Federal support for minority health students and faculty members. In the context of "beltway" politics, Dr. Sullivan's statement was truly a bold assertion. This \$117 million initiative in **toto** does not represent Administration policy, but rather reflects legislation sponsored by Senators Orrin Hatch (R-Utah) and Edward Kennedy (D-Massachusetts). So when Dr. Sullivan declared himself in this fashion, he essentially challenged the Administration, of which he is a member, to demonstrate its commitment to broadened access to primary care. And for that we as primary care advocates must applaud him.

Dr. Sullivan has obviously recognized the power he commands in the bully pulpit in which he sits. He is determined to address

the problems surrounding the recruitment of promising minority students into medical careers and their retention in programs that train them for such careers. Legislation alone is an inadequate avenue for the promotion of primary care. We are talking about deep-seated cultural beliefs that foster specialism in every element of American society. This value will not be readily changed, but legislation would be a beginning because it has a way of disseminating messages through our pluralistic society that otherwise might not be heard.

Another mission that the Department could undertake on behalf of primary care (or perhaps it is a more appropriate function of private foundations) is simply to characterize and identify the private players that shape a medical care lineup that is 70 percent specialist and a dwindling 30 percent generalist. This is another disconnection in our system. To be more specific, what is an RRC and to whom is it accountable? Should subspecialty boards be the private preserve of the medical profession, or must they be held accountable to a broader public? One of the recommendations of several of the workshops was the formation of some type of commission that would engage in health manpower planning, which is a subject that must be examined more closely.

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Health manpower planning may sound like a foreign notion to some and too heavily laden with Government intervention to others, but a few years ago a fellow named Dan Quayle, a Senator who represented the great State of Indiana, held hearings and sponsored legislation that called for the creation of some kind of a quasipublic body that would take responsibility for the ratio of medical specialists to generalists in the United States. So this is not such a radical idea. Indeed, at one of these hearings, advocates for Quayle's notion included the editor of *The New England Journal of Medicine*, Dr. Arnold S. Relman, and other leaders of academic medicine.

Within Government itself, Dr. Sullivan could provide a service to primary care by convening some kind of forum through which representatives of the VA, the Department of Defense, the DHHS, and other Government agencies invested in this subject could discuss their common interests. State government might also be included in such a forum.

Sunny Yoder's paper on the connection between States and primary care was interesting because States are another set of demanders of primary care. She observed, after looking at Tennessee, New York, California, Illinois, and Texas, that "these

States' commitment to primary care training is strong and could become stronger as States increasingly look to primary care practitioners, not only physicians, to help meet the needs of the under-served."

Private foundations could also increase their investment in primary care. Many of them, particularly the Commonwealth Fund, the Robert Wood Johnson Foundation, the W.K. Kellogg Foundation, **Macy**, and Pew, have demonstrated a commitment to primary care over the years, but have not effectively disseminated to public policymakers the lessons they have learned and the reasons why they placed a strong emphasis on primary care. It would be appropriate and very useful for the foundations in tandem to inform both the Government and the private sector of what they have learned from the millions of dollars they have invested in primary care. One way this message could be transmitted is through a series of programs sponsored by the National Health Policy Forum, directed by Dr. Judy Miller Jones, but a written report disseminated widely could also benefit the cause of primary care.

In conclusion, primary care advocates should not rely completely on Title VII of the PHS Act as they pursue their cause within the Government. Title VII simply

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cannot hold the weight of this challenge; your advocacy must be broadened to other points of Government and the private sector. Within that context, the politics of budget reconciliation has become the politics of health in the 1980's.

The budget reconciliation bill that Congress enacts almost every year is really the only way that it shapes health policy. It is a mysterious process that often occurs without hearings and sometimes continues into the dead of night. Provisions emerge out of this darkness, and nobody knows exactly how they were crafted or who is responsible for them. But if people who advocate primary care are going to be **successful**, they must learn how to exploit this process of budget reconciliation, which is a very high-powered vehicle. Once it takes shape, it is essentially veto proof; floor amendments are severely limited. So once bills pass, they essentially represent law because few, if any, presidents have ever vetoed such a bill.

Concerning budget reconciliation, most of the legislators who manage this process are really quite sensitive to the importance of primary care, particularly within the framework of providing access to it to all

Americans. Specifically, Rep. Dan Rostenkowski (D-Illinois) of Chicago, who presides over the House Ways and Means Committee, is a strong advocate of urban teaching hospitals and the provision of primary care in the urban setting. His Senate counterpart, the Hon. Lloyd **Bentsen** (D-Texas), advocates on behalf of rural interests and is sensitive to the provision of primary care to people who live in under-populated areas. Senators Robert Dole (R-Kansas) and John D. Rockefeller IV (D-West Virginia) also advocate on behalf of rural interests and thus, they too are sensitive to the provision of primary care to people who live in such areas.

Lastly, another point of leverage is the media itself; characters like me who generally do not think of primary care as such, but who follow closely the saga unfolding in this country surrounding provision of access to all Americans. I think back to several years ago when several hundred reported gathered in Louisville, KY, as **Humana** carried out its spectacle of implanting an artificial heart in Bill Schroeder. That kind of media exposure is simply not available on behalf of primary care. But I do believe that if primary care advocates were more creative, they could

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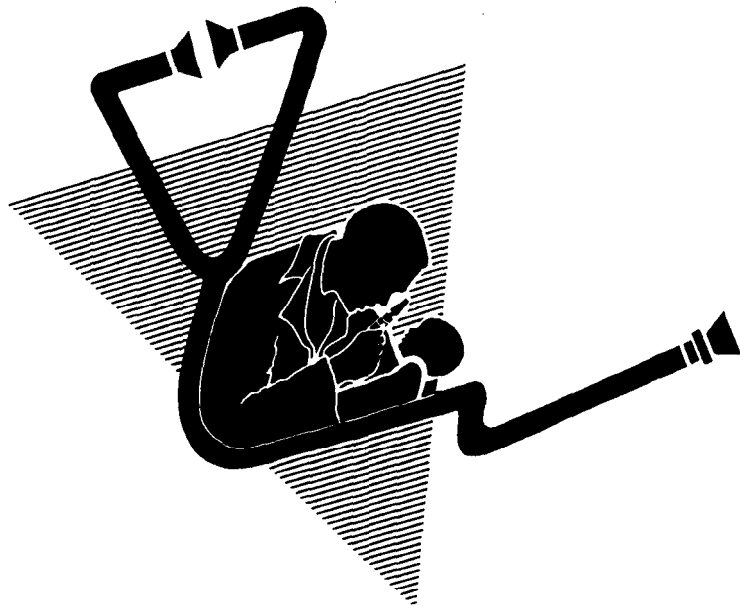
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develop approaches that would cast the lack of available **primary** care into forms that translated into a lack of access for people

in need. That, I believe, is a message that would resonate more completely among America's medical media.

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## **Workshop I: Recruitment and Retention**







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# Conference Report of Workshop I

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## Introduction

Within the last decade, there has been a growing national consensus that a mismatch exists between the proportion of primary care doctors needed (about 70 percent) and the proportion in practice (about 30 percent). This apparent imbalance has been attributed to the following factors: (1) the disparity in net income between primary care physicians and those in more technologically oriented specialties; (2) the lack of appropriate recognition for ambulatory care settings in primary care training; (3) the high cost of medical education with the resulting debt facing many graduates; and (4) relatively low reimbursement of services provided in ambulatory settings.

In its deliberations, the members of this workshop identified three major issues:

### Issue #1

There is too little representation of ethnic/racial minorities in undergraduate and graduate medical education. This includes lack of representation on faculties.

## Gaps and Deficiencies

The minority applicant pool for medical school admission is more competitive (**MCAT** scores and **GPA's** are higher), although somewhat smaller. However, minority students are rejected at higher rates than a decade ago, and there are increasing numbers of those accepted who are unable to matriculate because of financial barriers. There are presently significantly fewer incentives for institutions to increase their efforts to recruit minorities. Indeed, in the past 8 years, we have seen a decline in the energy with which minorities have been recruited by medical schools. Medical school admissions committees have not been culturally sensitive to the expressions of noncognitive qualifications of minority candidates, such as leadership and community involvement. For those minority students admitted to medical school, retention (especially in the first 2 years) continues to be a problem. There continues to be underrepresentation of minorities among medical school faculty. There is a paucity of faculty who can serve as effective role models for minority students. There have been too few minority recipients of the National Institutes of Health (**NIH**) First Career awards.

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## Accomplishments

**The** Robert Wood Johnson Foundation support for minority medical school faculty has been effective but is about to expire. Some innovative intervention programs designed to increase the minority applicant pool have been successful and are still in place.

## Solutions or Alternative Actions

- Support for racial/ethnic minority medical students should be derived primarily from scholarships rather than loans to reduce the enormous debt created by the pursuit of medical education.
- There should be financial support for institutions to recruit from communities where sufficient numbers of minority students can be found to convince them that a career in medicine is a viable opportunity.
- There needs to be an increase in the number of programs that better prepare minorities for the application process. More advising and preparatory experiences need to be made available to these applicants.
- **We** need to identify and intervene early in the educational careers of potential applicants, perhaps as early as elementary school.
- There needs to be an increase in retention support services for minority students once they are matriculated. We need to increase efforts to enhance preparation for the National Board Part I examination.
- Faculty development awards should be given for teaching much like awards are currently available for research. However, the emphasis here should be to recognize and support the value of mentoring, role modeling, and clinical teaching, so that minority faculty who engage in these activities can have the same opportunities for promotion as they would for publishing, getting grants, etc.
- Specific amendments to Federal legislation might help promote the recruitment of minority faculty.
- The role of minority medical schools in recruiting and retaining minority students needs to be recognized and supported. More than 20 percent of minority medical students who would

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not otherwise have been trained elsewhere have been admitted into minority medical schools. These minority institutions should be considered national resources/treasures and regarded as several of the “1,000 points of light.”

- Specific support for minority women in medical school needs to be introduced.
- There should be broad-based support for recruitment and special consideration in the National Residency Matching Plan (**NRMP**) process for minority medical students to increase their representation in residency programs, which have trained primary care physicians, i.e., family practice, obstetrics/gynecology, pediatrics, and internal medicine. This support should include specific funding for recruitment visits to medical schools or stipends for senior-year clerkships at hospitals involved in recruitment efforts. Title VII should support this activity with enhanced emphasis on minority recruitment or a funding priority preference, and with appropriate attention to how such preferences should be awarded, i.e., the definition of compliance with the intent of this preference.

## Issue #2

Too few medical school graduates are attracted to primary care specialties.

### Gaps and Deficiencies

Medical schools currently have no incentives for guiding students into primary care careers. The need to repay debt is a barrier to entering primary care specialties.

## Solutions or Alternative Actions

- Scholarships should be awarded to encourage medical students to pursue primary care careers.
- Incomes of primary care providers need to be improved to lure medical students away from the technical specialties.
- In establishing teaching **CHCs**, cost-based reimbursement should provide for the cost of primary care medical education as hospital training is allowed under Medicare.
- Expose new students, before and after matriculation, to settings in which primary care physicians practice.

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- Provide rural and urban practice training opportunities to students.
  - **CHCs**, or their equivalents, and primary care educators should create a partnership to delineate financial and educational requirements for establishing accredited primary care programs.
  - There is an acknowledged increase in ambulatory medical training/treatment. For this reason, funding for clinical teaching must be improved by incorporating funding for primary care teaching settings, funding for administrative training, Federal support for home care training programs, use of **DRGs**, and other reimbursement means. There must be an increase in salaries of faculties and residents in primary care.
  - Primary care must be taught by primary care physicians. Education in outpatient treatment must include training in the continuity of care.
  - Model sites and model institutions are as important as role models.
  - **Incentives should be provided to** encourage those who encourage others into primary care careers, into providing services in underserved areas, and into

teaching careers. Those serving as preceptors/mentors should be given appropriate academic rank in a primary care department at medical school with commensurate rights and privileges. They might also be offered some degree of indebtedness forgiveness, time at the **NIH**, or other incentives for mentoring.

- As enhancements to primary care careers, the probable benefits of managed health care systems should be made known to students.

### Issue #3

How can we improve service to the underserved?

#### Gaps and Deficiencies

Encouraging students into careers in primary care is not the same as encouraging them to serve in underserved areas. The demand for increased primary care for the poor, the medically underserved, and the medically indigent must once again come from the Federal Government. Along with this demand must come the resources to meet it and the encouragement of other institutions to help in the solution.

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A national health program must be developed in the United States. Only by instituting such a system can underserved patients be assured of universal access to comprehensive, accountable care. A national health program will allow physicians to care for the underserved without risking their own financial security. And finally, a national health program will end the blatantly discriminatory second-class health system now available to the poor.

## **Solutions or Alternative Actions**

- Primary care physicians need to be reimbursed at higher rates to attract students to underserved areas.
- Creative loan-forgiveness and repayment packages should be made available to medical graduates who choose to serve underserved populations.
- Preventive care and obstetric care are in even shorter supply in underserved areas than are other components of primary care, and efforts must be made to increase their availability.
- Medical school admissions committees should choose students who meet the demographic profiles of the areas we hope they will serve. They should pick the right students. This might get people into primary care, but will not necessarily get providers into underserved areas because of a massive salary gradient.
- Flexible career opportunities, e.g., time off, should be an option for those in underserved areas. We should not expect people to be 100 percent employed in primary care but should allow the option to do research, teaching, etc. Schools should **accept**—and make provisions for—the fact that faculty move in and out, and that tenure/support, etc., should be based on recognition of that flexibility.
- Find and/or create collaborative efforts to bring psychologists, sociologists, and others into a much-needed “societal network” necessary for the support of the arduous demands on practitioners in many of our underserved areas.
- The Federal Government must create the mechanisms to allow primary care to reach the uninsured as well as those covered by Medicaid/Medicare.





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# Introduction to the Background Papers for Workshop I

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The three papers prepared for this workshop provide background for examining issues related to recruitment and retention of primary care providers in underserved areas, with special attention on cultural and financing issues.

Dr. Denise V. Rodgers' paper, ***"Primary Care For Underserved Communities: Stronger Demands-Weaker Incentives,"*** specifies questions and definitions related to the consideration of approaches to meeting current primary care needs. These include defining the underserved; identifying the providers who serve them; defining primary care and who is expressing the demand for primary care services; and finally, identifying the incentives and disincentives for serving the underserved population.

Dr. Rodgers suggests that efforts to solve the shortage of primary care physicians working with the underserved must address a variety of aspects of the problem. The areas specified include:

- Increasing the number of family physicians and the prestige of family medicine in medical schools;
- Increasing students from rural and urban communities, **from underrep-**

resented minorities and those expressing interests in primary care;

- Changing the curriculum approaches and content of medical schools and residencies to provide encouragement for electives in underserved areas, release time for clinicians to teach, collaboration in clinical research, cross cultural training, and exposure to nurse practitioners and physician assistants; and
- Encouraging community-oriented primary care approaches.

Underlying these efforts must be a Federal commitment to providing quality health care to everyone and allocating appropriate resources to meet these needs. Proposed solutions include a national health program.

***"The Importance of Cultural Awareness and Exposure"***\* by Dr. John E. Arradondo, focuses on: (1) the recruitment of minorities into medical education and into service in underserved areas to **underserved** populations and (2) the retention and graduation of minority physicians-in-training and their retention. as practitioners in underserved areas. He contends that success in these two areas will require greater visibility and rewards

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for serving the underserved; changes in admissions practices, curriculum, and the current hierarchy of services; and changes in the delivery system and its financing.

The paper explores various aspects which will affect success in achieving goals. Among them are the importance of role models, characteristics of students selected for admission to medical school, and characteristics of the medical school and residency programs, especially curriculum requirements.

Suggestions are presented to develop mentoring and role model approaches through national and local medical societies and the Academy of Family Physicians' State and local network. Qualities of an ideal role model are articulated. Identified characteristics of students reinforce those identified by Dr. Rodgers, including selecting students (1) from underserved areas or populations, (2) who are racially and culturally similar to the underserved, and (3) who have expressed an interest in family practice.

Dr. Arradondo identifies five medical school characteristics which are associated with the selection of family practice careers. They include the amount of time devoted to required training in family

medicine; whether the school is public or private; the timing of training; the geographic location of the school; and the administrative structure of family medicine.

Medical schools and residency programs can influence the production of primary care physicians willing to practice in underserved areas. They can also enhance functional attitudes, skills, and knowledge needed by majority physicians who care for underserved populations. Successful approaches to increase the supply of culturally sensitive primary care physicians must start early by increasing the pool of interested and qualified applicants. Review of the research suggests that neither counseling nor courses, however, change career choices once a student has personalized his/her decisions. Such efforts must, therefore, focus on the early phases of decisionmaking. Other suggestions and approaches offered by Dr. Arradondo reinforce those of Dr. Rodgers.

The financing of undergraduate and graduate medical education is considered by Drs. Rieselbach, Jackson, and Mays, in their paper, "*Public/Private Financing Of Graduate/Undergraduate Medical Education.* "

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The basic premise of this paper is that there is a need for innovations in public/private financing of graduate/undergraduate medical education to improve the current capacity to care for the underserved. The authors also urged that special efforts be geared to encouraging health professions opportunities for minority students. Current financial resources available to recruit and retain these individuals are woefully inadequate.

The paper reviews a range of interventions at both the undergraduate and graduate levels before proposing a new major educational initiative. At the undergraduate level, emphasis is placed on support for recruitment of minority students and for activities required to reinforce interest in primary care and reduce current attrition rates. The three types of interventions identified are: direct student aid to meet high costs of medical education; support for counseling and tutorial services necessary to retain minorities in medical school; and financial support for a curriculum that supports primary care career choices.

At graduate level, there is a need for a shift to ambulatory care education. To make this a positive experience requires that students and residents “view these ambulatory sites as providers of **high-**

quality medical care delivered in a pleasant setting in which they would desire to practice.”

The authors indicate that the recruitment and retention of disadvantaged minority students requires a comprehensive program of direct financial aid consisting of loans and scholarships. The paper describes the current problem of declining numbers of black applicants and a leveling off of the numbers admitted over the past 10 years. A major factor contributing to this reversal of the gains made in the 1970’s is the increasing costs and resultant level of indebtedness associated with a medical education. The level of indebtedness not only discourages minority enrollment in medical school but serves as a disincentive for entry into the comparatively lower paying primary care specialties.

Other retention efforts echo those identified by Dr. Arradondo such as a need for minority faculty as role models. Historically black medical schools’ lower attrition rates for minorities provide support for the efficacy of this approach.

Requirements for curriculum support include more appropriate course content and role model exposure the first 2 years, longer required primary care clerkships, and

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continuity experiences. Supplemental funding to support curriculum development and teaching is needed and may be partially provided by redirecting current medical school resources, expanding State funds, and foundation support.

In graduate medical education, the major emphasis needed is for increased training in the ambulatory setting for both primary care specialties and others. While there has been significant movement toward ambulatory settings such as new requirements for general internal medicine residencies to have a minimum of 25 percent of 3 years of training in ambulatory settings, two types of issues must be addressed.

First, changes are required in ambulatory training sites so they are well managed, efficient patient care operations. The sites must be viewed as core training experiences rather than as supplemental or elective components. The second set of issues are the more frequently cited financial barriers. The authors review of current sources of graduate medical education support show bias against ambulatory-based education, even though Medicare now recognizes some direct costs of this training. Even this is of limited advantage, since most ambulatory sites do not receive significant Medicare support. Additional financial concerns are

inadequate revenues to cover costs of educational programs.

Supporting the authors points is a recent IOM study to develop strategies to overcome barriers to financing primary care graduate medical education in ambulatory settings. The study recommendations, reviewed in the paper, reflect a combination of revenue enhancement, cost control, and redistribution of dollars to modify the current system.

The final section of the paper presents a proposal to overcome barriers to solving the urban health crisis. Urban health education centers (**UHECs**) are proposed as the focal point for a “comprehensively planned and coordinated primary care career pathway for minority students.” These centers are perceived as providing a programmatic and financial linkage between minority health manpower development, ambulatory education, and primary patient care.

The authors call for a public/private partnership through a new Federal program funded under Title VII and administered by **HRSA**. They give recognition to the important contributions of the **AHEC** program but feel that the AHEC program, as currently structured, could not meet the objectives they specify for the **UHEC**.

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The paper provides detailed descriptions of the components of such a program and the objectives of these centers, which would operate as independent, nonprofit organizations with medical school/teaching hospital affiliations. Major aspects of the **UHECs** would be recruitment, student counseling, remedial learning, financial

advice, and assistance resulting in a coordinated effort to provide minority students with the stimulation, career development, financial guidance, plus emotional and financial support from junior high school to an established career as a primary care specialist.



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# Primary Care for Underserved Communities: Stronger Demands-Weaker Incentives

Denise V. Rodgers, M.D., University of California at San Francisco

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In the most affluent and technologically advanced country in the world, there are housing underserved, nutritionally under-served, educationally underserved, and economically under-served individuals; so it is not really surprising that there are also medically under-served people. There are an estimated 2 million homeless people in America and an estimated 20 million illiterate American adults. Of the general population, 13.6 percent live on incomes below the poverty level, while 31.1 percent of African-Americans and 27.3 percent of Hispanics live below the poverty level. Given the wide disparity in socioeconomic class, combined with society's reluctance to commit the necessary resources to ensure all people a basic minimum standard of living, it follows that a significant portion of the population is medically underserved. In the late 1960's and throughout the 1970's, many of the initiatives of the "Great Society" were aimed at moving closer to a basic minimum standard. The past 10 years, however, have seen a deliberate movement away from this altruistic goal as the realities of the enormous costs, both in dollars and commitment, became apparent. Medicare and Medicaid represented major efforts on the part of the Federal Government, along with the States, to address the needs of the medically under-served. And yet, as the

title of this paper suggests, these past efforts have fallen short of the mark.

The answer to this dilemma may lie in part in the many questions raised when addressing the issue of primary care for the underserved. In reading the title of this paper, some of the questions that come to mind are: What is primary care? What is an underserved community? What are the demands? Who is making the demands? What are the incentives and who provides them? What is a community? Does the title refer to community-oriented primary care or to traditional primary care to be provided for individual members of a community? What does it mean to be an underserved community as opposed to being an underserved individual within a community? For patients, how does underserved differ from being underinsured or indigent, and how does that relate to underutilized or inaccessible care? Finally, how do the answers to these questions affect the availability of primary care physicians who work with the underserved? This paper attempts to address some of these questions and provide some suggestions for action. At the same time more questions will undoubtedly be raised, many of which will require further investigation before definitive solutions can



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be offered. However, given the current state of health in underserved communities, interventions must continue and new ones must be initiated even before we have answers to all of these questions. The lives of individuals and communities depend on it.

This shortfall in the provision of adequate health care may perhaps be the result of a tentative, at best, commitment to change. Many of the questions raised above were questions 20 years ago that remain unanswered. Inappropriate or inadequate solutions were often instituted as a result of incomplete data. Most likely the shortfall is the result of a combination of factors. One thing is certain: People who lack adequate housing, food, and education can never be adequately served medically.

## **Who Are the Underserved? What Is an Underserved Community?**

Passage of the HMO Act in 1973 and formation of the NHSC created an impetus for the definition of an underserved community. The HMO Act, as written, required that within 3 months of passage the Secretary of Health, Education, and

Welfare (HEW) report to Congress those criteria that were used to identify a “medically underserved” community. Congress would then receive a list of these underserved areas and populations. HMO applicants would be given priority in grant awards based on their ability to serve these newly designated areas.

In order to meet the first requirement of the HMO Act of 1973 (P.L. 93-222), an Index of Medical Underservice was developed. The Secretary of HEW reported to Congress on the index model by stating?

The purpose of using an index approach, rather than individually examining a number of separate indicators against criteria for each indicator, is to allow for simultaneous consideration of all the criteria used. The indicators of medical **underservice** chosen are weighted according to their importance in identifying medical **underservice**. In that way, the measured value of a given indicator of underservice is considered along with its relative weight for measuring **underservice**. Because of this interdependence of the indicators or criteria, it is unlikely that any single indicator can be used to show that an area or population group is or is not **underserved**. As a result, the index should be a more predictive tool than separate criteria.

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The Index itself was developed by the Health Service Research Group at the University of Wisconsin-Madison and is based on four qualities that are weighted and then added together. The four qualities listed in order of importance are: the ratio of primary care physicians to total population; the infant mortality rate; the percentage of persons with incomes below the poverty level; and the percentage of the population 65 and older. Jere Wysong, writing in *Health Services Research*<sup>17</sup> in 1975, points out many of the pitfalls of the Index as developed. The most significant is perhaps, once again, the problem of definition. Nowhere in the Act or the Index is “medical underservice” defined. Wysong goes on to say:

In fact, **underservice** or scarcity may be defined or judged in terms of at least three criteria, perhaps more: (1) Scarcity may be measured in terms of the number of services available to a particular area or population relative to the average number of services available in the region or in the Nation. (2) **Scarcity** may be measured in terms of some judgement about the relationship between the demand for services in a particular area (as indicated by current and projected utilization) and the availability of services to meet that demand. (3) Scarcity may be measured in terms of the relationship between availability of services and some estimate

of the population’s need for health services, as indicated by morbidity and mortality.

The Wysong critique concludes by saying that the number of primary care physicians per 1,000 people is the variable that comes closest to defining medical underservice. The variables of people over 65 and people below the poverty line are not health-status variables at all but probably serve to illustrate the interconnectedness of health status and socioeconomic class. Finally, the infant mortality rate is a health-status indicator that relates to a very specific segment of the community’s health.

Given the flaws of the Index, it becomes clear that it was an inadequate standard to use in health planning or HMO evaluations. Yet the history of the Index is instructive in pointing out the difficulties of trying to define an underserved community. How can the number of primary care physicians working in underserved communities be increased if it is unclear where to place them? It is obvious that some agreed-upon working definition of an underserved community must be developed so that priority sites for primary care physician placements can be identified.

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The disparity in health status and mortality statistics between minorities and **nonminorities**, as well as between the rich and the poor, serves as further evidence that there are still underserved communities in this country. This is proof of the third possible definition of underservice outlined by Wysong above and speaks to the need for more than a numerical analysis of the ratio of doctors to patients in identifying areas of need.

## Who Serves the Underserved?

**Kindig** and **Movassaghi**<sup>21</sup> have documented that underservice, according to Wysong's first criterion, scarcity in terms of the number of services available relative to the average number of services available in the region or in the Nation, still exists. **Kindig** and **Movassaghi** showed that between 1975 and 1985 there was a 20-percent increase in the number of physicians practicing in counties with populations of less than 10,000. This resulted in the ratio of physicians to 100,000 people rising to **53/100,000** in these counties. However, this compares to a national ratio of 164.8 **physicians to 100,000 people in 1985**. As would be expected, primary care physicians constitute a high percentage of physicians in small rural counties. In 1985,

77 percent of patient care physicians in rural areas were in primary care specialties. Ninety-one percent of the primary care physicians in rural areas were family practitioners or general practitioners. This fact strongly supports the notion that more primary care physicians, especially family physicians, should be trained in order to meet the needs of the medically **underserved**. Family practitioners are the physicians serving the rural underserved.

Several factors influence a physician's decision to practice in an underserved area. In a **study**<sup>33</sup> done in 1980 looking at the practice location decisions of NHSC physicians and **non-NHSC** physicians, it was determined that those physicians without Government obligation, non-NHSC, were more likely to practice in rural locations if they were in general or family practice, if they had been raised in a rural area or had a spouse raised in a rural area, or if they had trained in a rural area. Rural physicians were more likely to prefer solo or small group practice, and they tended to have an aversion to being employed by a large institution. In terms of medical practice, like most generalists, rural general and family practitioners valued continuity of care, responsibility for all of their patients' medical needs, and variety in their day-to-day practices. Most of the

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non-NHSC physicians who were located in rural areas tended to have experiences during residency training in settings that were like the ones in which they eventually settled. Interestingly, NHSC physicians who were located in rural or urban areas were not differentiable on the basis of rural or urban background. Rural retention is better for NHSC physicians in general or family practice, those with residency training in an outpatient rural setting, and those with spouses who do not have graduate degrees. Most often NHSC physicians who elected to stay in their placement communities were those who were ready to settle down. Community characteristics that were found to be less favorable for rural retention included: having a county-wide population density of 10 persons per square mile or less; a county-wide, nonwhite population of greater than 20 percent; and a county-wide median family income of \$8,500 or less. Not surprisingly, these characteristics tend to separate underserved communities from those that are not underserved nationally.

In looking at urban areas, **Kindig**, et al.,” found that office-based primary care physicians declined by 45 percent in poverty areas between **1963** and 1980. During this same time period, the total number of physicians increased 29 percent

in the urban areas studied, with an increase in the number of hospital-based physicians accounting for the gain. It is postulated that some of the primary care need in poverty areas of cities is met by specialists doing primary care. Primary care clinics in hospitals also help meet the need. However, the loss of office-based generalists is of concern for several reasons. Hospital-based care is often more impersonal, less culturally sensitive, and more expensive than office-based care. This decline in non-hospital-based primary care must therefore be viewed as impacting negatively on urban underserved patients. One exception, however, is the care delivered by primary care residents training in poor urban areas. In general, family practice residencies based in these areas emphasize teaching residents how to provide culturally appropriate, cost-efficient, continuity care to their patients.

One positive step toward meeting the health needs of the urban poor is the increase in the number of minority physicians graduating from U.S. medical schools. In addition to physicians with rural backgrounds, minority physicians are more likely to serve the underserved. Keith, et al.,<sup>23</sup> in looking at the graduating class of 1975 from U.S. medical schools, found that over half of all minority graduates went

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into primary care specialties, and significantly more minority graduates practiced in designated health manpower shortage areas. Minority physicians also saw proportionately more Medicaid recipients than did their white counterparts. Physicians of a particular racial/ethnic background cared for disproportionately more members of their own background.

These findings lead to the conclusion that physicians from backgrounds similar to those of patients who are underserved are more likely to work in underserved communities. Unfortunately, being from a medically underserved community is often equivalent to being from an educationally under-served community; therefore, entrance into medical school becomes nearly impossible. Affirmative action programs promoting an increase in the number of minority and rural physicians have yielded limited success. Until "**affirmative** action," in the form of improved educational resources, is brought to the elementary and high school level, there will continue to be an inadequate number of physicians wanting and willing to work in underserved communities.

## What Is Primary Care?

The definition of primary care, although often elusive, is important to understand for several reasons. Only by agreeing on a definition of primary care can we look at the impact of primary care physicians in underserved areas. This task is somewhat easier in rural communities where the majority of patient care physicians are family and general practitioners. However, in under-served urban communities, the actual need for traditionally defined primary care physicians may be lessened if subspecialists in the community are providing primary care. Some **authors**<sup>29</sup> have addressed the issue of subspecialists, particularly medical subspecialists, as primary care providers. It is unclear whether or not any authors have looked at the quality of primary care delivered by these subspecialists.

The concept of primary care was originally introduced in the Dawson Report of 1920 in the United Kingdom. It was this report that laid the foundation of the British National Health Service. However, the term "primary care" did not come into common usage until 1969, when the Department of HEW circulated a pamphlet by Donald L. Madison, M.D., entitled *A Conceptual Model of Organized Primary*

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### *Care and Comprehensive Community Health Services.*

**The** original Dawson definition of primary care included only those services performed in an outpatient setting. The United States and Canada have broadened the definition to include some of the services provided in the hospital as well. In addition, a number of specialties have been included in the list of those providing primary care. Psychiatry and obstetrics and gynecology are sometimes included, in addition to general internal medicine, general pediatrics, and family practice.

In a **study**<sup>34</sup> done at the University of California, Los Angeles, in 1983 looking at data from the Rand Health Insurance Experiment, three alternate criteria were applied to data on health care utilization in an attempt to define primary care. This study found that in 34 percent of cases the physician providing the “majority of care” was a specialist. In 12 percent of cases, specialists received the results of multiphasic screening exams, and 9 percent of the time specialists treated patients’ common illnesses. At least one **study**<sup>35</sup> has shown that continuing care is not a distinguishing feature of primary care. The provision of preventive care may be the major indicator of true primary care.

This notion of specialists as primary care physicians raises issues that are fundamental to the selection of primary care specialties by medical students. In many, if not most, major medical schools, family practice is viewed as a second-class specialty.

Instructors from the subspecialties frequently tell students who plan to enter family practice that they are “too good” to be family practitioners. If these students persevere and do enter family medicine they are encouraged to go into the “best” programs. Unfortunately, these “best” programs are often defined as those that are university affiliated and serve middle-class populations.

Students in some of the best medical schools in the country are actively steered away from primary care training in hospitals that serve the poor. Although inner-city, public institutions have long been viewed as the best training sites for subspecialists, they are deemed to be too overwhelming for continuity-care learners. The diversity and complexity of the “teaching material” allows subspecialty residents to become highly competent physicians who learn on the poor in order to work **with** the rich. Little of this **inner-city** training has formal curricula that emphasize the need for these same physicians to work with underserved

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patients once they complete their training. Primary care residents who do choose to work in these settings are often taught an inadequate model of comprehensive, accessible, accountable care. Too often residents in general internal medicine and general pediatrics work in clinics that operate on a “drop-in” basis. Only a small percentage of patients in these settings have the luxury of seeing the same physician repeatedly. It is no wonder that residents in these clinics learn how to treat acute illness and refill chronic medications without practicing preventive care or providing patient education. The patients in most need of these latter two services are those least likely to receive them.

Residents who do provide continuity care for patients in inner-city hospitals are often faced with the same frustrations as their seniors in practice, with a similar result-burnout. Primary care residents in public inner-city hospitals work with the neediest of patients and have the fewest resources. These physicians-in-training are faced with patients whose medical problems often pale in comparison to their social and economic needs. How does a resident **begin to discuss the importance of a low-sodium, low-cholesterol diet** with a hypertensive woman who has no home for herself and her three children? All too

often there are inadequate social services available in these hospitals. **So** the diligent resident must then call the Housing Authority only to learn that the waiting list for low-income housing is 4 years long. Repeated episodes like this can make even the most dedicated and idealistic of residents exasperated and cynical.

The frustrations of learning and practicing family medicine in inner cities are frequently overwhelming for patients and physicians alike. Many of these frustrations also plague rural physicians, who additionally must deal with inadequate resources and a lack of consultative backup. Yet, even with these frustrations, a fairly sizable, albeit inadequate, number of physicians do choose primary care specialties, and some practice in underserved areas. Unfortunately, the institutional structure of medicine is such that those physicians who do some of the most difficult and challenging work medicine has to offer are looked upon as being the least competent and least deserving of respect. This lack of respect is reinforced when data point out the number of subspecialists practicing primary care. It then appears that any physician can do primary care; all it takes is 4 years of medical school. While not explicitly spoken, this attitude is sanctioned at the

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medical school level as primary care specialties are undermined by prejudice.

Until monies are allocated to support research in the quality of primary care as delivered by various specialists and subspecialists, this underestimation of the knowledge and skill of family physicians, primary care internists, and primary care pediatricians will continue. The dermatologist who prescribes a patient's antihypertensive medications must be convinced that this is no more appropriate than managing the patient's myocardial infarction. Equally, the cardiologist who occasionally does a Pap smear must recognize that that is as unacceptable as managing a patient's pemphigus. In both cases, specialists understand the need to refer the latter problems to each other, yet they are much more reluctant to refer to a primary care physician. And' the more students are exposed to these attitudes, the more they adopt them and question a career choice in primary care.

One new trend, which may affect the number of physicians entering primary care specialties, is the shift to the ambulatory setting for medical **education**.<sup>38</sup> As the acuity of illness increases in hospitalized patients and as hospital stays are shorter, medical students have less opportunity to

learn about the normal course of common diseases. Conditions that once required hospital admission are often managed in the outpatient setting. These changes will lead to more and more teaching in the ambulatory care setting. Although this trend has the potential to work in favor of more students choosing primary care specialties, it might have an opposite effect. If the ethics of the inpatient setting prevail, the importance of continuity of care will be lost on learners. If students are allowed to come into primary care settings to learn and are not exposed to a continuity of care experience, they will again learn that patients are to be cared for and learned from once, with no further responsibility. Similarly, if specialists are encouraged to do more primary care in their specialty clinic settings in order to provide more teaching for students, the wrong lessons will be taught.

On the other hand, if medical schools begin to value the skills and knowledge of the primary care physician and if this attitude is passed on to students, new respect and interest in primary care and family practice could result. If students learn the importance of continuity of care during their clinical education, along with the benefits of and necessity for health promotion and disease prevention, a positive



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impact on underserved patients in academic settings might result. Indeed, this training could have a significant positive affect on health care in the United States as a whole.

Finally, as medical education moves more and more to the outpatient setting, students must learn at a curricular level the important role of primary care and preventive medicine in addressing the problems of the under-served. They must also learn explicitly that caring for the underserved is an important goal for physicians and society as a whole. In order to make this goal a reality, medical schools must take some responsibility for the health of the communities that house their teaching institutions. Medical schools with affiliated programs in rural areas must also ensure that a majority of students are exposed to rural practice so they can make an informed decision in choosing a specialty location. The most elite of medical schools must begin to take great pride in the number of primary care physicians they graduate, just as they take pride in the number of researchers they produce. This is not to suggest that medical schools should de-emphasize **research, for it too is vital in ensuring the health of the Nation.** However, it must be pointed out that the two goals, increasing the number of researchers and increasing

the number of primary care physicians, are not mutually exclusive. High-quality primary care research is badly needed. Schools that emphasize the importance of primary care and research may increase both and, consequently, graduate fewer students in the already overfilled medical and surgical subspecialties. Perhaps research funds should be tied not only to the quality of research done at an institution but also to the percentage of primary care and, specifically, family physicians graduated by the school.

### **Who Is Making the Demand for More Primary Care for the Underserved?**

By the mid 1980's, much of the literature written about the medically underserved was written under the heading of "medically indigent." This not so subtle shift in language reflected the health care systems concern more with patients' ability to pay and less with their ability to obtain care. Obviously, indigent patients are different from underserved patients, **although the two subsets probably overlap substantially.** As G.J. Bazzoli points out,' indigent patients are difficult to quantify. It appears that patients who must pay for

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care and who are also poor tend to receive less preventive care and tend to wait to seek care until their conditions are quite serious, often requiring hospitalization at high financial cost. Ironically, it is often the case that these patients become eligible for public coverage once their hospital bills begin to accumulate. In a study by **Aday, et al.**,<sup>36</sup> the uninsured were found to receive fewer basic diagnostic medical procedures, including pap smears, breast examinations, and blood pressure checks.

Recent economic and health policies have directed a shift from concern about health status to economic status. In 1965, when Medicaid was first enacted, its mission was to help States provide health care for the poor. This program was a fundamental component of President Johnson's War on Poverty, which sought to provide a basic minimum standard of living for the poor. The Medicaid program, in matching State expenditures, spent \$1.6 billion in 1965 and \$6.3 billion by 1971. This increase in funding was marked by States' initiating and expanding programs for the underserved. By 1976, Federal expenditures had increased to \$14.1 billion as 22.9 million people were served. Some of this increase in spending resulted from the 1972 amendments in the Social Security Act, which mandated certain Medicaid

eligibility standards. That is, the Federal Government decided that certain categories of people, the aged, the blind, the disabled, and children of mothers receiving Aid to Families with Dependent Children, must be covered by Medicaid. This change thereby protected certain particularly vulnerable subsets of the poor.

Unfortunately, this trend of increased responsibility was short lived. From 1976 to 1980, the Medicaid program began its downscale. Eligibility criteria were made more stringent, so fewer people were covered. By 1980, the number of people eligible for Medicaid had declined to 21.6 million, while expenditures rose to \$23.3 billion. Much of this seemingly disproportionate rise in cost was related to inflation and higher medical costs.

Further erosion of the Medicaid program resulted from passage of the OBRA in 1981 and the Tax Equity and Fiscal Responsibility Act in 1982. These two bills were primarily aimed at reducing Federal spending and the Federal deficit. Their passage marked a significant shift in the Government's responsibility to the poor. **It** is at this time that the priority of balancing the Federal budget at the expense of the poor became apparent. A number of **followup** studies have documented the

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disproportionately high burden placed on the poor by the reduced spending that resulted. Philosophically, in some sense, the Government shifted from being a major voice demanding primary care and other services for the underserved to a voice demanding cuts in services for the poor.<sup>6</sup> The Administration at that time actively took a position that abdicated its responsibility to the poor and underserved. However, the statements of some members of the Reagan Administration indicated that they believed that the impending cuts would not hurt the poor. These statements have been quite convincingly refuted in studies looking at health status for the poor during the last 10 years. While withdrawing monetary support for the underserved, the Reagan Administration also retreated in other ways, which resulted in a worsening situation for the poor. Cuts in Federal spending on medical education, a "hands-off" policy toward the problem of primary care physician undersupply, and an unwillingness to become involved in policies affecting overall physician supply marked the early years of the Reagan Administration.

As **noted earlier, it was the Federal Government** that for many years was the most powerful voice demanding primary care for the underserved. However, as

fiscal concerns have become paramount, agents of fiscal responsibility have played an increasingly significant role in influencing the availability of services to the poor. Recent literature now suggests that hospitals and hospital administrators are the new voice for the uninsured. Patients who are underserved by virtue of their inability to pay are increasingly cared for by for-profit and not-for-profit institutions. This trend is the result of public hospital closures in the face of increased demand. The private sector now seeks reimbursement for the underserved patients they are forced to see, thereby taking on a semi-advocacy role for the uninsured underserved. This advocacy comes in the form of a cry for solutions to the problem of providing uncompensated care to these patients. If a broad enough solution is reached it may in some minimal way increase access to some services for some patients. Ironically, it has also made publicly sponsored patients seem more appealing to private institutions, as inadequate payment from Medicaid is better than no payment.

The three-class health care system that has evolved raises difficult ethical issues for **primary care physicians working with the underserved**. Many clinics that serve the poor have reduced the number of services offered and are closely looking at ways to

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reduce costs as a way to offset budget cuts that have occurred in the last 10 years. Physicians in these settings see first hand the variations in care available to the three classes of patients. In many States, Medicaid patients are limited in the number of outpatient visits they are allowed, or they have to copay for services. In other States, the types of medications or therapies paid for is limited. For individual practitioners this means that the necessity for every visit or for every medication must be carefully scrutinized. The physician must decide whether the severely hypertensive patient who has been started on medication can afford to be seen within 1 to 2 weeks for **followup** or whether the patient must be given a less effective medication because it is less expensive and, therefore, more accessible to the patient. In general, medical education inadequately prepares physicians to make these kinds of decisions. The goal taught to most students is to give the very best care possible without wasting adequate, available resources.

Primary care physicians who work in private settings often subsidize care for poor patients with revenue from their paying patients. And, in most instances, they must strictly limit the number of

underserved patients they can see in order to remain financially solvent.

Many generalists working in **CHCs** or public hospital clinics question the affect of their work. As patients are seen day after day with similar problems, most of which require multifactorial solutions, physicians come to clearly understand that their efforts alone will not improve their patients' health status. For many physicians, a **community-oriented primary care (COPC)** approach has helped make the problems seem less insurmountable.

The notion of COPC has been met with considerable resistance since its inception around 1932 as evidenced by a statement endorsed by the AMA in 1932:

It is always the individual patient who requires medical care, not diseases or economic classes or groups. **It** seems almost impossible to those who are not engaged in the practice of medicine to understand that the profession of medicine is a personal service and cannot adopt mass-production methods without changing its **character**.<sup>27</sup>

On the other hand, Madison offers a COPC response that states:

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It seems almost impossible to those who are engaged in the practice of medicine to understand that the profession of medicine, as a personal service, could more effectively address many of the problems affecting individual **persons** were it to consider such persons **as** belonging to a group or a community, thereby enabling interventions that focus on groups of persons who **share** the same health **problem**.<sup>27</sup>

Given the magnitude of problems faced by the poor and underserved, a **multifactoral** approach such as COPC would seem quite appropriate.

### **What Are the Incentives? What Are the Disincentives?**

In many ways, physicians who choose to work with the medically underserved exemplify the best traits of medicine as a helping profession. In urban areas especially, the underserved include many of the so-called “undesirables” of society. Alcoholics, drug abusers, the mentally ill, and the homeless are seen along with a majority of people who just happen to be poor. Regrettably, the specters of AIDS and crack cocaine have served to make this work even more challenging and frightening. No disease in recent history

has raised such a high level of concern for physicians about their own safety and the risks to their families as has AIDS. **As** the AIDS epidemic shifts demographically to include more people of color, many of whom are poorly educated, socially disconnected, and poor, the role of the primary care physician becomes even more imperative. AIDS in the African-American and Hispanic communities is a disease of families, best addressed by the family physician. These medically unsophisticated patients need a physician who can coordinate their contact with multiple specialists and guide them through a series of difficult decisions that must be made regarding their illness and possible death.

Crack cocaine has also raised disturbing questions for all health care providers working in urban underserved areas. Most significantly, people addicted to crack seem to pose a greater physical threat to providers than do other patients. They frequently enter waiting rooms out of control, violent, and sick. While these patients do not often appear for regular primary care, their loved ones do. Family members and people living with crack addicts often suffer not only stress-related illness, they are too often the victim of drug-related violence. Family physicians caring for addicted patients are frequently

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faced with caring for three generations of a drug-affected family-the female addict, her children, and her mother, who now raises the children while also supporting her addicted daughter.

Rural physicians face many of the same issues as their urban counterparts; compounded by problems unique to less accessible parts of the country. The rural physician frequently faces working with limited resources in a setting where the patients have limited resources. Professional isolation and never-ending or too frequent "call" are other problems faced by rural doctors. In the face of multiproblem patients with physical and socioeconomic problems, they too lack the help of professionals in other disciplines to call upon when they refer patients. For example, the child with severe school problems is often counseled by the family physician when the nearest psychologist or counselor is 100 miles away.

So why do people do it? Because it is most often highly satisfying work. Primary care physicians working with the medically underserved know that they really do make a difference in people's lives. They derive a sense of pride from working in communities that others shun. For many physicians, their role in the community is not only one

of great responsibility but also of great respect.

The positive feelings and the importance of the contributions made by these physicians need to be increasingly shared with the country. Indeed, the PHS and NHSC need to go to every medical school in the country encouraging students to "make a difference with your life-serve the medically underserved."

## **What Are Some Possible Solutions?**

The following are some recommendations to help increase the number of primary care physicians working with the underserved. Most of them are not new, and some have been or are currently being implemented. The most important component to beginning to find solutions for the medically underserved is a commitment by the Government to providing high-quality health care for all. This commitment must then be followed by the allocation of adequate financial and manpower resources. Although we must not waste money or simply "throw" it at problems, we must learn **from** the lessons of the past decade. Cuts in funding do hurt the poor and

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ultimately hurt us as a Nation. Specifically, the following efforts must be made:

- Increase the number of family physicians. Research data have shown the important role family practitioners play in caring for the rural underserved. There are also strong arguments supporting an increase in the number of family physicians who work in urban underserved communities.
- Increase the number of physicians who come from rural or urban underserved communities. These physicians are more likely to serve their communities after completing training.
- Increase the number of underrepresented minority medical students. Again the data show these students as more likely to work with poor and minority patients.
- Increase the number of medical students interested in practicing primary care after graduation. Criteria for admission to medical school should be weighted toward admitting students who are likely to become general internists, pediatricians, or family practitioners.
- Increase the prestige of family practice in medical schools. This will be accomplished not only by family medicine continuing to contribute to the overall body of medical knowledge but also with the help of Federal intervention. Institutions receiving Federal grant monies should be encouraged to require all students to rotate in family practice. The principles of comprehensive primary care must be taught in all medical schools; this area is particularly important to the recruitment of minority students into family practice. Students who have experienced discrimination based on their racial or ethnic backgrounds are less likely to enter a specialty where they fear being exposed to further discrimination based on specialty choice.
- Medical students and residents in primary care specialties should be actively encouraged to do electives in medically underserved sites. Often this will mean providing room and board in rural sites.
- Physicians working in clinics for **the** underserved should be given paid release time to teach students in their practices. This measure will not only

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help prevent burnout, it will help physicians keep up with recent medical advances.

- Physicians in underserved communities should be encouraged to participate in collaborative clinical research. These physicians hold the key to getting information on what works and what does not in working with a poor community.
- Physicians in underserved areas should be encouraged to develop a COPC approach. NHSC physicians, those in Federal loan repayment programs, and those in neighborhood health centers, both rural and urban, should have access to free COPC consultation from the PHS. Physicians who are a part of the development of a multilayered approach to solving a community's problems, and, therefore, individual patient problems, are less likely to be overcome by the frustrations of seeing patients with a seemingly insurmountable number of complex problems.
- Collaboration between behavioral scientists, social scientists, and advertising executives, should be fostered so that those who perhaps know the most about modifying

people's behavior can work with those trying to do the actual modifying. Indeed, a country with people talented enough to market the "Pet Rock" should be able to develop programs that will encourage teenage girls to seek prenatal care.

- Cross-cultural training must be required in all medical schools and residencies. All physicians, but especially those working in underserved areas, must learn to work with ethnically and culturally diverse patients. Since many of these patients speak little or no English, physicians-in-training must learn to work optimally with interpreters.

*The need for such training was recently reenforced by an incident that occurred in a major teaching hospital on the west coast. A recently immigrated Chinese infant was brought to the pediatric walk-in clinic by her parents with high fever and upper respiratory infection symptoms. On physical examination the child was found to have otitis media, so antibiotics were prescribed. Before the infant was sent home, she was given a tepid bath to bring down the fever. The parents were told to bring the child in for reevaluation the following day. Two days later the infant was brought into the*



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*emergency room of a different hospital dead on arrival. The parents, through an interpreter, reported that the child grew increasingly ill over the next day with fever and bloody diarrhea. They reported not bringing the child back to the clinic because they blamed the worsening illness on the bath given at the first visit. Bathing a sick child is taboo in their culture, and the parents were wary of taking their child back to doctors whom they believed had knowingly harmed their child*

- The individual needs of a particular community must be taken into account in setting federally mandated patient-encounter criteria. Physicians working for the NHSC or neighborhood community clinics must not be forced to have 4,500 to 5,000 patient encounters per year without assessment of the potential negative impact on patient care.

*For example, a physician working in a community with a sizable Southeast Asian patient population may not be able to diagnose and treat otitis media in a child in the allotted 15 minutes. Obstacles to time-efficient care include needing to wait for interpreters if other providers also need them; conceptual differences in how the human body functions, which may lead to*

*difficulty in obtaining a history; and a level of explanation of treatment generally not required in most settings. For example, the physician may have to explain carefully to parents that the antibiotic is to be taken by mouth and not put in the ear.*

*Perhaps an index of community difficulty should be developed that will set realistic patient-encounter goals, considering such factors as language capability, complexity of socioeconomic problems without adequate social-work support, ratio of ancillary staff to provider staff, teaching responsibilities, percentage of care for patients over 65, and the percentage of care for people with AIDS or AIDS-related illness.*

- Medical students and primary care residents should have experience working with and learning from nurse practitioners and physician assistants. Health centers serving the underserved that employ nurse practitioners and physician assistants have been shown to operate more efficiently and effectively. Trainees exposed to these practitioners will be much more likely to consider working in settings that include them in the future.

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- Physicians working in underserved areas should be allowed to choose the areas in which they work.
  - Loan repayment or scholarship monies should continue to be available to doctors working in under-served communities.
  - The demand for increased primary care for the poor, the medically underserved, and the medically indigent must once again come **from** the Federal Government. Along with this demand must come the resources to meet it and the encouragement of other institutions to help in the solution.
  - A national health program must be developed in the United States. Only by instituting such a system can underserved patients be assured of universal access to comprehensive accountable care. A national health program will allow physicians to care for the under-served without risking their own financial security. And finally, a national health program will end the blatantly discriminatory **second-**class health system now available to the poor.

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# The Importance of Cultural Awareness and Exposure

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Although the American medical/health industry has a continuing dearth of primary care physicians, few are African-American, Hispanic, or Native American. Given the propensity for minority physicians to serve primarily their own ethnic group and their tendency to pursue training in the secondary and tertiary care specialties, it is hardly surprising to find an unusually high proportion of underserved citizens among the African-American, Native American, and Hispanic populations. This **under-**service problem is compounded by the low percentage of minority clients served in the majority of medical practices.

## Introduction

In this paper, when a specific minority group is not named, “minority” will refer to African-Americans, Hispanic Americans, and Native Americans in that order of frequency. When a primary care specialty is not named, primary care will refer to family practice, general pediatrics, and general internal medicine.

This paper addresses the recruitment of minority physicians into medical education -undergraduate and graduate-and into service for underserved populations in underserved areas. **Further** it addresses the

retention and graduation of minority physicians in training and their retention as practitioners in **underserved** areas.

If anecdotes and case studies carry any credence, recruitment of physicians must begin at an early age, when parents, teachers, family, and friends label a child as a “future doctor.” It must continue with gift-giving such as toy medical kits, white lab coats, and anatomy models. It is fostered by special medical roles in class plays and special attention from the family’s physician. These expectations, set at such an early age, seem to influence the attitudes and aspirations of many children.

## Anecdote

At 3-1/2 years of age, one **African-**American boy said he wanted to become a doctor. He had never seen a physician or even read about one. His announcement predated toy doctors’ kits and medical games. His family was uneducated. Apparently, his inspiration had come from his older brother who had just completed his first year of college (a first for his family) and spoke so enthusiastically about pre-medical studies and becoming a doctor. He would not see his brother again for 3 years. Yet, a half century later, this



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middle-aged, board certified family practitioner clearly remembers the scene, the setting, the discussion, and the affect this had on his growth and development. Apparently, this one inspirational moment in the life of a bright, eager child imprinted medicine as the premier career goal of this little black farm boy. This child's achievement of his ideal-becoming a doctor-is as much a testament to clarity of purpose, seized opportunities, and evolving role models as it is to parents expecting excellence, compelling persistence, and encouraging caring.

During his personal and professional growth and development, this successful black man suffered through stultifying poverty and blatant racial discrimination and abuse. Yet, he always sought out and learned from role models who had similar problems, kept his mind on the distant goal, and cared about his family, colleagues, and community. While he pursued excellence, he helped anyone who was remotely interested in or qualified for a similar career. Several points in his career may be instructive for addressing cultural and racial barriers to recruitment and retention.

This family physician's history is somewhat unique. His oldest brother had to quit college for nonacademic reasons beyond his

control. The young child sought and found mentors and other role models. One younger and three older siblings sought to enter the health professions; none were successful. All were said to be as eager, bright, and persistent as the index child. All became successful in some other field as did their oldest brother. The index child met his first physician during his senior year in high school. He received his **first** primary care practitioner mentoring during his senior year in medical school. He never trained in an underserved area. He first encountered the principles of primary care during his senior elective in medical school. The universities providing his undergraduate and graduate medical education did not support family practice or the other primary care specialties.

This physician and his family of origin attribute his success to three things: (1) his ability to find role models to suit his situation; (2) his persistent desire to serve a large number of African-Americans; and (3) his fascination with "avant garde" movements. **While** his experiences differ from those normally felt to guide students into primary care, his history can be instructive. Clearly, the influence of role models and mentors is essential to the attraction, recruitment, matriculation, and

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retention of minority medical students to primary care in underserved areas.

Recruiting family physicians for the 21st century is apt to require some of the same measures found to be successful for other specialties: greater visibility and greater rewards-greater visibility in the admissions practices, in the curriculum of training and in the hierarchy of services, and greater rewards in the medical/health delivery system and in medical health care financing. In another generation he would have been a pediatrician or a public health physician. It has been said that during the early 1970's, many trainees entered family practice because it was a movement that fit the tenor and the social changes of the times.

## Role Models

**A**s the focus continues on recruitment and retention of minority physicians, attention should be directed toward actual role models within the medical education and service systems. Few minority students have good role models or mentors when they matriculate into the medical/health education system. There are even fewer minority role models within academic/

university settings. The numbers are smaller still if one examines role models that are available as field instructors, preceptors, or community leaders.

There are reasons for the limited numbers of minority role models. Currently among the minority practicing physicians, many are often "overworked." Usually they work alone in solo practices. Due to the everyday demands of medicine and daily contact with their patients, many minority physicians who would be appropriate mentors find little time for becoming directly involved with medical students or residents.

Working in the publicly funded health system has provided additional opportunities for minority physicians. But they too have limited time to serve as mentors. The public system may leave minority physicians with feelings of being "powerless providers," since they are seldom able to affect the conditions of their work environment, patient load, clinic setting, and reimbursement. Physicians working in the public health sector often spend long hours attending patients at public facilities. Due to their patients' limited financial resources and lack of health insurance, overworked physicians in public systems are often

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unable to “take on the extra responsibilities” beyond their regular duties.

With this scarcity of role models, innovative ways are needed to recruit minority physicians who will be available to assist minority students. This recruitment plan should begin at the community level. The National and American Medical Associations (NMA and AMA) should implement mentor/role model programs. The Academy of Family Physicians should fully implement minority support programs through all its State chapters and most of its local chapters. Minority medical schools should implement mentor programs among their alumni across the country.

At one time, medical schools planned to make greater efforts to recruit minorities; however, the influx of foreign medical graduates seemed to close the gap and thus relieve the pressure to recruit and train minority physicians. During the 1970's, States licensed 15,000 foreign medical graduates annually from Europe and Asia. Foreign medical graduates, however, did not fill the gap, because they were generally secondary care-oriented, and they related poorly to the underserved populations. Generally, they did not serve well in minority communities. Thus, early

perceptions that the gap was narrowing were false, and family practice remains a specialty in short supply.

## **" Culture " of Medical Education**

As we identify cultural barriers to recruitment and retention of minority physicians, perhaps our greatest cultural barrier is in the actual “culture” of the medical education system. There is a need for more of a primary care mandate in the medical school's curriculum. The curriculum needs additional focus on primary care and family medicine early in the training years of the academic program. Medical students often spend the first year learning anatomy and physiology and the second year learning abnormal anatomy and physiology. Only in the third and fourth years of medical training do students begin taking electives and receive an orientation to family medicine. If we are to recruit more students and especially more minority students into primary health care and family medicine, the structure and orientation of required classes needs to be altered.

Hans Mauksch discussed the importance of required classes and electives. He reported that because of the demanding pressures of medical school, students are more apt to be

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very concerned about their survival and maintaining adequate grade levels. Many students who have an interest in family medicine may not elect an optional course but would take a required course in family practice. He further reported that medical school is an environment in which students, by virtue of their experiences, are steered away from family medicine. One can make the analogy that medical schools are like tiers in a grandstand, in front of which students parade and where each tier represents curriculum courses of study. On the first tier are anatomy, biochemistry, pathology, etc.; on the second are the clinical studies. If you are lucky, the third tier includes family medicine along with a few selectives and many electives. On the sidelines are professors, each waving a banner proclaiming his own particular specialty, in an effort to fill his tier in the grandstand. That professor who has the best position and who waves the best attracts the most followers, thereby filling his tier. If family medicine-lucky to be in the grandstand waving at all-does not wave well, the result will be an empty tier, which means few family practice physicians. Therefore, family medicine must be concerned with its image as well as its conditions of practice. It must make hard decisions about its future and its ability to recruit.'

Recruitment and retention of minority physicians should focus on innovative systems of admission, training, and care.

***Clinical Education*** and the ***Doctor of Tomorrow*** suggested the following:

(1) Facilitate educational innovations such as having the National Board of Medical Examiners report scores on its tests only on a pass/fail basis and having the AAMC report performance on the **MCATs** only as being above or below pre-established levels determined in consultation with medical schools; (2) Move more training, and consider moving the base of training in certain primary care specialties, to ambulatory care settings. Negotiate with public and private funders of care in teaching institutions to shift funds from inpatient to outpatient programs to permit such education to occur; (3) Require a period of community service as part of becoming a doctor; and (4) Require medical students to pass comprehensive, performance-based clinical examinations.'

Attention should be directed to recruiting individuals from underserved areas. In a study, Sandra R. Wilson reported that by increasing the number of rural physicians selected from shortage areas who are interested in general or family practice, more physicians located to their home region or in small or rural communities.

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She further stated medical education should provide clinical training opportunities and residency programs in rural and urban shortage areas, since practice region is positively related to region of terminal formal training.<sup>3</sup> Underserved areas/populations must be examined and assessed, and the following steps should be taken to recruit students from those areas:

(1) Accept more students who specify an interest in family practice; (2) Recruit those who come **from** underserved populations/areas; (3) Recruit and accept more students who are racially and culturally compatible with the underserved; (4) Recruit and accept more students with behavioral or social science backgrounds; and (5) Admit people who desire to practice in an underserved area. In summary, medical schools should admit underserved students to go into underserved areas.

W.D. Brearley and others have reported in another study that participation in a family practice clerkship or preceptorship during the third and fourth years of medical school and association with family physicians during or before medical school were perceived as most beneficial in recruiting trainees into family practice.<sup>7</sup>

According to a case study by William Burnett:

**Of family practice physicians certified since 1978, 44 percent have entered practice in urban or rural underserved areas. Family physicians constituted only 26 percent of primary care physicians entering practice, but they constituted 32 percent of primary care physicians entering urban underserved areas and 54 percent of primary care physicians entering rural underserved areas.<sup>5</sup>**

In this paper, the initial anecdote touches upon many of the racial and cultural barriers to the entry of minorities into medical professions.

In circumstances where no clear goals and aspirations are identified early or inculcated in a child, the “Gorgon” of poverty, **low-**education status, absence of close medical role models, and racial discrimination and abuse would have turned most minorities away from the doors of medical schools and medical careers. However, as we can see in that initial biographical sketch, certain strategies, begun early enough, can inspire confidence and shore-up the courage, persistence, and willingness to endure the hardships necessary to become a doctor.

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## **Ideal Role Models**

Imprinting the aspiration and belief that "I can become a doctor" in a minority child begins with (1) shaping the attitude wherein the child is more apt to learn, at home and at school; (2) providing stimuli that encourage development in areas associated with medicine; and (3) providing a constant stream of role models.

If we want to inspire more minorities to become primary care physicians in underserved populations, we must provide the best possible role model. Ideally, that role model should be the modern-trained family practitioner. In many cases, minority medical students who "end up" in general internal medicine do so because they were unable to pursue their chosen subspecialties. Though general internal medicine is generally a part of primary care, it often has the secondary care slant and does not follow the same stringent primary care requirements and the same quality of experiences as family medicine.

The ideal role model should have as many of the following qualities as possible.

### **• Professional affiliations**

**The** ideal role model should be board certified in family practice and a Fellow of the American Academy of Family Physicians. These qualifications would assure that the doctor can safely handle over 90 percent of medical/health problems presented. (In reality, you are most likely to find membership in the American Academy of Family Physicians alone without fellowship status or board certification.) In the case of the black physician, the next step should be the NMA and its family practice section. (You are likely to find only general membership in the NMA with no affiliation with the family practice section or even no NMA membership affiliation whatever.) For the ideal role model, memberships in these associations are a way of ensuring certain standards of education and leadership are met.

### **• Teaching role**

Another significant way that the ideal role model keeps current is to have a teaching role in his practice, i.e., by accepting students and residents into his practice. This encourages the practitioner to keep up with the

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advances in medical information and technology. There is a considerable difference between those physicians who accept students and those who do not. (In reality, you only find a modest portion of minority doctors willing to risk by accepting trainees.)

- **Community involvement**

Another quality of the primary care role model in underserved populations/areas is the acceptance and practice of a leadership role in the community. The ideal role model would be willing to serve in the community in a nonmedical capacity, where his general knowledge and ability to get things done are valuable assets. Serving on community boards, influencing the legislature, and raising funds are all good examples of this community leadership role. (In reality you are more likely to find this role exemplified in rural areas rather than large urban areas.)

- **Group practice**

In order to participate in these roles and still assure some quality time for personal, social, and family interests, the ideal role model should be involved

in a partnership or group practice. The lack of personal time has a negative effect on the doctor physically, emotionally, and socially. It can undermine health and family harmony, and it can provoke inappropriate behavior for a role model. Some medical students would see the lack of time as the inability to control one's own personal, social, and professional behavior and time. This kind of uncontrollable lifestyle is associated with primary care specialties, which are perceived as those specialties featuring "uncontrollable lifestyles," or lifestyles that do not allow the physician to have much control of his own life and profession. In the article, "Controllable Lifestyles: A New Factor in Career Choices by Medical Students," authors Richard W. Schwartz and others defined the specialties that feature controllable lifestyles as "... anesthesiology, dermatology, emergency medicine, neurology, ophthalmology, otolaryngology, pathology, psychiatry, and radiology. Noncontrollable lifestyle specialties were surgery, medicine, family practice, pediatrics, and **obstetrics-gynecology.**"<sup>6</sup> The idea of group practice allows the doctor more control over his personal, social, and professional time to fulfill his own

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needs without sacrificing those of his patients. This degree of control can make primary care more attractive as evidenced by the relatively higher proportion of female family physicians who choose salaried practices. (In reality, most minority primary care providers work in a solo practice with variable to poor "cross coverage" for emergencies with similarly placed practitioners.)

• **Eclectic practice**

The next quality that the ideal role model should have is that of a mixed practice: The practice should have a balanced ethnic (racial), socioeconomic, and third-party payment mix among its patients. As a role model, the family practitioner must show he is capable of dealing with all racial and socioeconomic groups. (However, you are more likely to find the features of a monolithic practice, consisting of a majority of patients from the same race as the provider and one dominant socioeconomic group.)

The ideal role model should be actively involved in the local family practice chapter, as well as in the local minority group medical society. This assures a

source of continuing education and exposure to developing trends and provides more opportunities for mentoring. (The likelihood is that the minority doctor belongs to only one of these organizations or none at all.) In many rural areas or small towns there is no nearby family physicians chapter or local minority group medical society.

For the medical student, the resident approaches the ideal more nearly than most general practitioners and more nearly than many isolated family practitioners. According to T.B. Fox, et al., "recent studies have shown that students and residents choosing family medicine career orientation have obtained an academic parity with their counterparts in other specialties, which was not demonstrated by their general practitioner predecessors." Of the 60,000 members of the American Academy of Family Physicians, only half are modern trained in family practice. Fox, et al., also indicate that "... the advent of Family Practice residencies and undergraduate course work has significantly altered the educational experience of today's medical students. This study adds to the literature by comparing a third element, the social character of Family Medicine-oriented students, residents, and practicing physicians." Of the medical



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students entering specialties, few enter family practice, even fewer are minorities, and an extremely low number of minorities in family practice teach in medical schools.

There are other medical practice reasons why the modern-trained family practice physician is most likely to be the ideal role model. Nowadays, family practitioners must complete 3 years of prescribed training aimed at teaching the diagnosis and resolution of medical/health problems. This curriculum prepares trainees to deal with the “person’s needs” as well as the “patient’s needs.” It teaches the student more about behavioral sciences, community health, and measurement sciences. It also teaches more about the health care system (how to get a patient into, through it, and out of it safely). Finally, it teaches trainees to know when they know and when they don’t know, when to study the problem more, when to consult or refer, and how to relate all of this to the patient.

In sum, the family physician as a role model is likely to be the quintessential doctor needed in any area by any population that needs or demands safe, competent, personalized medical/health services.

## **Preparation**

Just as there should be an ideal role model, there should be an ideal in the preparation of doctors to serve in those underserved areas or populations.

Many minorities fail to enter medical school because of inadequate secondary school preparation, especially in the areas of math and science. Where college preparedness is concerned, more medical schools should look at students majoring in behavioral and social sciences as well as meeting basic standards in the basic sciences and mathematics, rather than depending primarily on scores from an objective test and the student’s progress in advanced sciences and mathematics.

As of 1987, a study of the racial-ethnic backgrounds and specialty choices of over 11,000 members of the U.S. medical class of 1987 shows that “before entering medical school, the students had similar specialty preferences regardless of background. As seniors in medical school, there was an even greater convergency of specialty choices among the students of all backgrounds. Racial-ethnic background in itself appears not to have been a major factor influencing the senior medical students’ specialty choices.”

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Since race does not seem to influence changes in specialty choices once a student is in school, it is incumbent upon the medical school to look more closely at its own characteristics and practices. The most important questions are: Does the medical school require training in family medicine, and how much training in family medicine is required? In a number of studies, five characteristics of medical schools clearly related to choice of family medicine as a specialty: (1) the amount of time devoted to required training in family medicine; (2) timing of the required family medicine training; (3) the type of ownership of the school (public or private); (4) the geographical location of the school; and (5) the administrative structure of family medicine within the school. The greatest correlations were found for choice of family medicine as specialty in the number of weeks required training was given and the type of ownership (public ownership produced more family practitioners)."

The best experience for the medical student is the "synthesis" experience in the family medicine preceptorship. This is the medical school experience most liked by students. It allows the student to see and relate to the patient as a whole person. The student is able to see the whole gamut of his medical curriculum illustrated in the

medical problems handled in a single family practice and to apply most of his skills in one setting.

Perhaps the curriculum's plan should be changed to allow a general orientation practicum in the very beginning where students see patients and families first instead of dealing with cadavers and test tubes. As it stands now, conceptually the best chance of maintaining and graduating students in family practice, and most especially those who are willing to serve in underserved areas, is to: (1) require family medicine courses, (2) devote more hours to family medicine, and (3) provide ample opportunity for family medicine preceptorships. Similarly, a workable way to get more minority trainees to enter underserved areas is to recruit many more minorities (from junior high school on) in general and seek more who say they will go to underserved areas.

Once a student has entered medical school and has made a choice, there is little that counseling can do. An evaluation of a 1978 to 1985 Physician Shortage Area Program (**PSAP**) at Jefferson Medical School, which preferentially admits medical school applicants from rural backgrounds who intend to practice family medicine in rural and underserved areas, showed that

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“PSAP graduates from the classes of 1978 to 1981 were almost 5 times as likely as non-PSAP graduates to practice family medicine (59.6 percent versus 12.6 percent). They were 7 to 10 times as likely as their peers to combine a career in family medicine with practice in a rural or underserved area (24.4 percent to 3.1 percent versus 3.1 percent to 3.9 percent) ...” thereby fulfilling the goal of the PSAP.”

Neither counseling nor courses seemed to change career choices after the student had personalized the choices. For those students who are functioning at an earlier stage of decisionmaking, counseling, and required courses do seem to make a great deal of difference.

In recent years, there has been a gradual shift away from the time when there were far more students applying to medical schools than there were slots for them. Today, some medical schools are actively recruiting more applicants! How many of us would have believed that 20 years ago? Today we don't seem to have as many math and science graduates as we did 20 years ago, and we aren't bringing hundreds of medical corpsmen back from Vietnam, ready for further medical training.

How do we fill the gap and bring more majority and minority students into the arena of medical training, where they can serve the minority populations through family medicine or another primary care specialty? We will not be able to fill the gap entirely with minority students, so we must consider the inclusion of majority students in cross-cultural training.

There is a general consensus that exposure of majority students to underserved minority populations and to underserved minority areas will help develop and broaden the sensitivities of the majority students. To put it another way, the better they get to know you, the better they will understand you, and the more they will tend to be sensitive to your problems and needs.

Medical schools can develop and implement innovative programs to involve faculty in underserved communities. One suggested program would exchange a faculty member with community practitioners and would (1) provide greater exposure to the problems of the underserved for faculty members; (2) create and maintain a continuing linkage with practitioners serving in underserved areas or underserved populations; (3) provide an excellent means of relieving the preceptor of practice responsibilities for a short period of time,

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thereby offering him the opportunity to update old skills or develop new ones; (4) provide opportunities for faculty members to upgrade attitudinal and clinical skills needed outside **academe**; and (5) introduce a different perspective to nonminority students by allowing physicians from underserved areas to serve as visiting **faculty**.<sup>12</sup> In general, involving practitioners in an underserved area in teaching programs, continuing education programs, and consultation and referral programs can increase their participation in the life and mission of the educational institution and can provide meaningful role models for trainees.

It has also been said that ignorance breeds fear, so perhaps a little knowledge will bring a measure of openness and trust. After all, if one subscribes to the American value of individual control of one's fate and the consequent myth that those who are needy and/or socially disadvantaged are somehow morally and socially less worthy, then the counter balance may require majority trainees to be exposed to the reality of underserved populations and areas.

This "cross-cultural" exposure, whether in didactic academic course work, a Balint group, a family practice club, or a clinical

preceptorship, could play a great role in a student's choice of primary care specialties and could be an even greater factor in the student's overall development as a physician. At a 1981 conference sponsored by the Society for Health and Human Values, an interdisciplinary group of medical and humanities faculty members involved in residency training concluded that "... it was critical to begin making human values and humanities training an explicit part of the graduate education for physicians."<sup>13</sup> The urgency of their concern was expressed in their desire to see the physician become involved with the whole person rather than simply concentrating on pathology. Several studies have identified some interrelated factors that affect primary care specialty choices, especially family medicine. These factors include the following psychosocial phenomena: student preference to treat the whole person; influence of nonacademic physician role models; perceived societal and personal **needs**<sup>14</sup> . . . not unlike the factors driving the physician in the initial anecdote in this paper.

Although the proponents of the bioscientific pathway to medical careers still regard the role of the clinician as primarily being responsible for handling the scientific aspects of illness, there is a movement

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toward the development of physicians' attitudinal and cognitive behaviors as tools in addressing not only physical suffering, but social and mental "dis-ease" as well. For the underserved, the implications of the extent of physicians' exposure and sensitivity to culturally determined beliefs about illness and illness behavior is crucial. Health care may sometimes depend upon the practitioner's sensitivity to these beliefs and other environmental factors. "These beliefs are as much factors in the cause of illnesses as are infectious agents and physiological changes. Present knowledge about human behavior offers evidence that answers to many of the problems of clinical diagnosis are linked to cultural **patterning**."<sup>15</sup>

## Other Influences

Medical schools and, to a large extent, residency programs can influence the production of primary care physicians willing to go into underserved areas. They can select people who clearly indicate their intention to enter family practice or one of the other primary care specialties, plan to locate in an underserved area or to care for an underserved population, and come from an underserved area or population. Through this kind of selection, the training institutions and programs can increase the

number of minority physicians seeking the preferred specialties and having a willingness to work with the at-risk population. Additionally they can enhance the functional attitudes, skills and knowledge needed by the majority of physicians to care for underserved populations. This could influence both lanes of the pathway to serving the underserved: (1) enhancing the practices of minority physicians, most of whose patients are from the same minority group; and (2) increasing the cross-cultural capabilities of majority physicians, who collectively provide care for nearly half of the minority population.

Colleges and universities can increase the pool of interested and qualified applicants to medical schools in several ways: establishing mentoring programs that focus preferentially on primary care and on minority students in addition to, not in lieu of, what they do already; pairing minority students with role models; and intentionally teaching minority students the long-term process of obtaining a medical education.

Medical schools can offer health career preparation programs for high school and college students, track selected potential students, and guarantee their admission and their basic medical school costs if they

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progress satisfactorily through the pre-medical program.

Medical schools can retain and graduate students entering into family practice and other primary care residencies by strategic planning. They can admit a specified portion of these students who intend to go into primary care and into under-served areas. Preferentially, they can provide specific financial aid to desired students. They can require family medicine curriculum equal to that of the “major” specialties and require family medicine preceptor-ships. They can offer family practice clubs and special mentoring for students choosing a primary care career. Finally, they can offer early and continuing “for-credit” exposure to community-oriented family care.

Primary care residency programs can prepare for serving shortage areas by: (1) using a strong community-oriented family care approach; (2) using a functionally visible primary care team in their training, and (3) marketing themselves to students and clients from under-served populations.

Residency program deficits in cross-cultural training can be decreased, and interest in

the needs of the underserved can be generated through specific cross-cultural curricular experiences. The 1986 Annual Report of the Society of Teachers of Family Medicine suggested a three-level approach to curricular development: “(1) the individual doctor-patient relationship; (2) the community-oriented approach to cultural health issues; and (3) the **macro-**aspects of culture and **health**.”<sup>16</sup>

Communities and primary care practitioners can enhance the likelihood of mutually satisfactory primary care outcomes by (1) giving vigorous personal and professional support to primary care practitioners and their families; (2) seeking out trainees for preceptorships as well as other extracurricular interactions; (3) establishing services and educational linkages to the nearest appropriate institutions and resources that support primary care; and (4) advocating health care financing reform that supports interactive cognitive procedures rather than just technical procedures.

The financing system should pay the primary care practitioner 200 percent of the usual and customary fee for treating the most frequent causes of mortality and morbidity, thereby making it financially competitive to work in underserved areas

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(these populations and areas usually have a higher incidence of these diseases, i.e., cancer, cardiovascular). Financing should be aimed at closing the gap in the payment differential to those practitioners who serve the underserved, based on the idea of more value for the “use of scarce resources.” Analogous financial incentives should be built into prepaid systems that serve the underserved.

## **Challenge**

The continuing challenge of concerned individuals, organizations, institutions, and communities is to implement as many of these workable solutions as possible, since each is necessary, but none in itself is sufficient to provide the basic or optimal service to the underserved.

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# Public/Private Financing of Graduate/Undergraduate Medical Education

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## The Urban Health Education Center

During the coming decade, innovations in public/private financing of graduate/undergraduate medical education could have a major impact on our capacity to improve care for **the** underserved. This potential exists because our system of medical education is driven by financial incentives, and the system's characteristics have a profound influence upon recruitment, retention, and effective training of primary care physicians—currently in such short supply for the care of the underserved. Since a large segment of this country's underserved are urban racial/ethnic minorities, and since minority students have a greater likelihood of becoming primary care physicians for underserved minorities,' overcoming the financial barriers to a primary care career pathway (**PCCP**) for financially disadvantaged minority students is of crucial importance. We will describe the present inadequacies of financial resources available for the graduate levels and formative years of medical education. We conclude that the presence of formidable financial barriers necessitates bold innovations in financing if we are to reverse the rapidly deteriorating trend in output as compared to our requirement for

minority primary care physicians. Failure to address this problem with vigor will further exacerbate the problem of decreasing accessibility of primary care for underserved racial/ethnic minorities in our cities.

At the undergraduate level, it is essential that financial resources are available in order to allow recruitment of a sufficient number of minority students with a primary care interest and to allow nurturing of that interest throughout medical school. We will document the financial constraints that recently serve as a barrier to (1) recruiting sufficient numbers of these students, (2) providing counseling and remedial study programs designed to reduce their high attrition rate; and (3) implementing a curriculum designed to stimulate and maintain interest in a primary care career. At the graduate medical education level, primary care residency training now requires a major shift to the ambulatory setting because of changes in medical practice. Attraction of minority medical students into primary care requires that they interact with resident and faculty role models who are part of well-funded and thereby smoothly functioning ambulatory training sites, which are structured to allow stimulating teaching. Furthermore, students and residents must view these ambulatory

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sites as providers of high-quality medical care delivered in a pleasant setting in which they would desire to practice. We will discuss the current financial barriers that have limited the availability of this type of ambulatory training site.

Finally, in view of the present dismal prospects for increasing the number of racial/ethnic minority physicians committed to primary care careers, we propose creation of an innovative program that could overcome these financial barriers. The proposed **UHECs** would serve as the base of support for a comprehensively planned and coordinated primary care career pathway for minority students. **UHECs** would utilize their resources to facilitate maximal recruitment and retention. UHEC financial resources would be developed by a public/private synergism. These, along with administrative and academic resources, would also be devoted to graduate/undergraduate ambulatory education and primary health care for the underserved. We maintain that this programmatic and financial linkage between minority health manpower development, ambulatory education, and primary patient care has substantial potential for overcoming financial barriers by controlling costs and enhancing revenues. We describe the structure of the proposed UHEC as well as

an approach for achieving integration of its multiple objectives.

## **Financial Barriers to Increasing Minority Representation in Primary Care Specialties**

### **Undergraduate Education**

#### ***The need for improved direct financial aid for disadvantaged minority medical students***

Recruitment and retention of disadvantaged minority medical students requires a comprehensive program of direct financial aid consisting of loans and scholarships. We will review current information regarding financial need of disadvantaged minority students, describe briefly some of the resources presently available, and address the need for improvement in both the availability and the administration of these resources.

AAMC figures for 1987-88 revealed an average first-year tuition for private medical schools of \$15,907, in public schools tuition was \$5,196 for in-state residents and \$11,490 for **nonresidents**.<sup>2</sup> This does not include room, board, books, or other

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expenses. Dr. Leon Johnson, president of the National Medical Fellowships, Inc., states that in 1980 the average indebtedness of a graduating medical student was approximately **\$15,000**; however, for minority students the average indebtedness was approximately **\$17,000**.<sup>3</sup> Subsequent studies in 1988 found that the average indebtedness for all medical students exceeded **\$38,000**; for minority students the average indebtedness was almost \$45,000. Moreover, 37 percent of minorities had debts over \$50,000.<sup>4</sup> Projected indebtedness for all students matriculating in 1988 has increased to \$70,000 and to almost \$81,000 for minorities. Considering that primary care is less remunerative than most other specialties, the mounting debt of minority graduates renders primary care less attractive. This is supported by data reported by Johnson, which indicate that in 1978 the ratio of minorities choosing primary care over other specialty careers was **70:30**; however, by 1988, that ratio had essentially **reversed**.<sup>3</sup> His data also indicate that minority physicians, on the average, earned 17 percent less than the average practicing physician. Thus, it is apparent that the need for direct financial support of disadvantaged minority medical students continues to increase. Although definitive data are not available, it is likely that this deficiency has substantial impact

upon minority student decisions to enter medical school, and for those who do matriculate, upon choice of specialty.

Currently available direct Federal aid for disadvantaged medical students, as well as perceived deficiencies in this program, recently have been described by comprehensive statements of the AAMC presented to the U.S. Department of Education in November 1989 and at a Senate Labor and Human Resources Committee hearing in April 1988 on reauthorization of the PHS Act.<sup>4,5</sup> Thus, for the purposes of this paper, we will only briefly outline available public scholarship and loan programs.

Federal scholarship support for medical students is available through two rather limited scholarship programs administered by the U.S. Department of Health and Human Services. Medical and dental schools receive \$4.7 million in Federal funds for Exceptional Financial Need Scholarships, which provided assistance to 234 students in the **1989-90** academic year. The other scholarship program, Financial Assistance for Disadvantaged Health Profession Students, provided schools with \$4.8 million to assist approximately 2,000 students with grants of varying size.<sup>7</sup> A third program consists of **Service-**connected Military scholarships, which

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assist 2,700 medical students—a fraction of those seeking such support. While these three programs help enhance access to careers in medicine and are critically important components of Federal financial aid, they are not **sufficient** to cover the cost of education and do not involve a commitment to primary care.

A fourth program is the NHSC Scholarship Program. The NHSC was established in 1970; the scholarship program, which entailed a service pay-back, was initiated as of 1972. The scholarship program became the primary mechanism for recruitment of primary care physicians to health manpower shortage areas (**HMSAs**). Full scholarships were provided to students in exchange for year-for-year service obligations in HMSAs. The scholarship program continued to grow during the 1970's. However, during the 1980's the program began to be phased out as part of the decreased Federal involvement in health manpower activities. Presently, there are 1,400 primary care providers in the NHSC who receive scholarships; that number will decrease to 200 by 1992.<sup>6</sup> From 1972 to 1989, there have been 7,546 NHSC scholarships awarded. However, less than one-third of these physicians undertook pay-back assignments in urban **HMSAs**.<sup>6</sup> The phasing out of the scholarship program was

in part due to the belief that a forecasted surplus of physicians would be available to **HMSAs**, thereby eliminating the need for obligated health manpower. In 1987, a loan repayment program was established by the NHSC. However, the fiscal year 1988 funding level for that program enabled only a very few (approximately 60) physicians to take advantage of this mechanism for debt payment.'

For the vast majority of medical students, loans are the primary source of financing medical education. Utilization of loans to finance medical education has been considered by some to be appropriate for most students, because the expected income of physicians is often well above average. Title IV loan programs are essential sources of financial aid for medical students. Without Stafford Student Loans, Supplemental Loan for Students, and campus-based Perkins Loans, many medical students would find it exceedingly difficult to finance their education. It should be noted that these loan sources often are **insufficient** to cover the cost of medical education. Thus, many medical students, especially those attending private institutions, must rely on unsubsidized, market-rate loans with terms and conditions that are much less favorable than the Title IV loans. Title IV financing is

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supplemented by the high-cost Health Education Assistance Loan Program administered by the DHHS; this is utilized by approximately 36 percent of medical students.<sup>4</sup>

A more detailed description of some of the major loan packages is informative and emphasizes their inadequacy and fragmentation. National Direct Student Loans allow medical students to borrow up to \$18,000 for their entire academic career. This is a Federal loan program and includes any amount that was borrowed while the student was an undergraduate. There is a simple annual interest rate of **5** percent, which accrues in every payment period beginning 6 months after the student's graduation. There is a **2-year** deferment for advanced training such as residency programs, which can postpone the beginning of repayment. The Stafford Loan, which was formerly the Guaranteed Student Loan (GSL), is available through commercial lending institutions. The Health Professions Medical Loan Program is a Federal plan offered to students who come from families having minimal ability to provide, whether or not the student is dependent upon his parents. The Health Education Assistance Loan Program is a federally sponsored loan program that makes the student totally responsible for

any cost incurred. Generally, only private lenders participate in this program, which has a variable interest rate that changes quarterly and an annual maximum of \$20,000. Supplemental Loans for Students allows borrowing up to \$4,000 per academic year with a \$20,000 cumulative **capitation** with a variable interest rate that changes once a year. Other resources available are the Manchester, Now, **Burns-Leslie**, Kellogg, Dredge, American Medical Association/Educational Research Foundation, and Okagaki loan packages. These loan funds come from institutional resources as opposed to Federal or State sources. The funds are extremely limited and essentially are awarded only to high-need students who already have a high-debt load. Interest rates vary from 1 to 9 percent, and both interest and repayment can be deferred through residency. The National Medical Fellowship is a private, nonprofit organization that funds minority students, is **need-based**, and will replace loans in the student's financial package when provided. Some States have charitable, educational, and scientific foundations administered by their State Medical Society that will provide modest scholarship and loan assistance to medical students. These vary from **State-to-State** in terms of funds available per year, debt limits, and interest rates; often the loan is interest-free until the student

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leaves medical school. At that time the interest accrues at the prime rate starting the July following graduation.

The AAMC has recommended several changes in the statutory and regulatory provisions that presently govern Title IV loan programs.' Also, new funding for the Title VII programs is being discussed.' <sup>8</sup> However, it is apparent that a continuation of the present "Band-Aid" approach will not reverse some very disturbing trends. Recently, the number of black applicants to medical schools has declined to 2,203 (1987) after peaking at 2,644 in 1981. In addition, although the number of blacks accepted into medical schools increased during the **1970's**, the number admitted has leveled off over the past 10 years. The decreasing availability of scholarships has been cited as a contributing factor to these trends.'

Major initiatives are required to confront the problems created by the inadequacy of Federal scholarship programs and the unacceptable assumption of debt that financially disadvantaged students are forced to undertake in order to meet the cost of medical education. Presently, disadvantaged minorities who desire to enter primary care training upon graduation and who eventually intend to practice in disadvantaged

areas are often hopelessly in debt upon graduation **from** medical school. They face the bleak reality of lower-earning potential as well as a poor practice environment if they return to the areas of greatest need. Thus, a consensus is building that a major expansion of public and private sector scholarship support is necessary to support medical education for disadvantaged minority students, and that loan funds would be best utilized in support of premedical education when the financial burden incurred need not be as great. We propose a major role for the NHSC, with development of a specific scholarship program for disadvantaged minority students, with pay-back service targeted for urban **HMSAs**. Tuition and fees could be limited to the median cost of all **State-**supported medical schools plus 25 percent. This would encourage students to attend the more inexpensive schools. Thus, with a scholarship grant of \$20,000 per year for tuition, books, and living expenses, a program funding 1,000 minority students in each year of medical school (a total of 4,000 students) could be supported by an \$80 million per year appropriation-a Federal expense somewhat less than that recently proposed by the Pentagon for one newly developed fighter plane. In addition to this scholarship support, loans for financing premedical studies should be

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more available and need to be **well-**coordinated by a central financial planning mechanism at the community level.

***The need for more financial support of counseling and tutorial services for disadvantaged minorities***

**AAMC** figures indicated a fourth year medical school retention rate of 89 percent for minorities versus a 97 percent average for all students combined.<sup>2</sup> These figures also indicate that required repetition of academic years was approximately 7 times greater for minorities than nonminorities. Additionally, the interruption of medical school studies secondary to academic difficulties is at least 2 times more frequent for minorities than nonminorities. Minorities comprise 10.2 percent of all medical school matriculates; however, minorities represent only 7.5 percent of those who graduate?

In order to address these problems, there have been significant advances made by the historically black medical college. Morehouse School of Medicine, which has instituted an academically strong support system, has a **4-year** attrition rate of about 7 percent. On a national basis, this is approximately 50 percent of what blacks are experiencing.

The availability of adequate minority faculty to serve as role models to interface with students and encourage them to develop effective study habits and career planning practices is a problem because minority medical faculty as of 1987 represented only 2.7 percent of all medical school faculty; blacks and Hispanics each constituted less than 1 percent. The majority of black faculty members are at the traditionally black colleges. The remaining minority medical school faculty are spread thinly throughout universities across the country. **AAMC** figures indicate that approximately 80 percent of minority students attend medical schools that are not historically black.<sup>2</sup> The issue of inadequate role models certainly is greater than just lack of exposure to medical school minority faculty. Nationwide, less than 3 percent of all physicians are black, and less than 2 percent of all biomedical scientists are black.

Commenting on statistics from the **AAMC** report entitled "Minority Students in Medical Education-Facts and Figures," Dr. Herbert **Nickens**, **AAMC** Vice President for Minority Affairs, observed that attention must be focused on junior high school, high school, and college as well as medical school academic support." In 1987,



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AAMC figures indicated that among minority men and women entering medical schools, the grade point average from college was 0.2 to 0.4 points lower than all matriculates. There was also a significant difference in MCAT scores, with the largest difference between minorities and **non**minorities being lower quantitative scores; the smallest difference between minorities and nonminorities was for scores in biology.” In a recent article, which appeared in the *Journal of the American Medical Association*, it was noted that historically black medical schools that have programs that extensively interact with students at the pre-college level have been successful in preparing students for the rigors of medical education.” It was further noted that as effective as these efforts are, there is a continuing need for increased funds to adequately support career counseling and academic preparation to attract qualified minority candidates into **PCCPs**.

Public high schools represent a major concern regarding the need for counseling and tutorial support. Recent Educational Testing Service studies of high school science acumen have demonstrated that blacks and Hispanics average four grade levels behind nonminorities.” According to The Robert Wood Johnson Foundation, minority high school students who receive

math and science enrichment are more likely to be accepted into medical school. Data from the American Council on Education indicate that since 1976, black high-school graduates have increased from **68** to 76 percent, while black college entrants have decreased from 36 to 26 percent.” Enticing bright and promising potential primary care physicians from the increased population of minority high school graduates requires interaction with them while they are making critical decisions regarding their future career. In November 1989, General Electric Corporation initiated a \$20 million program to double the number of urban high school students entering college by the year 2000. This program, among others by the private sector, is in direct response to the need for many more academically qualified minority students to provide a sufficiently educated work force, which includes sufficient health care providers willing to work in disadvantaged communities. For this goal to be achieved, the financial support for extensive programs in counseling and tutorial services for minorities will be required at the secondary school level.

In recent years, this need has been recognized by many other programs in the private sector. A number of medical schools support community programs

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designed to increase the number of minority and disadvantaged students with sufficient qualifications and academic preparation to succeed in medical school. A program at the Baylor College of Medicine, for example, has established multiple collaborative education projects, including a variety of institutions from elementary schools through graduate education. These programs attempt to improve the quality of science education at the local level and enhance opportunities for minority students to enter careers in the health science professions. Baylor is currently sponsoring **17** science and health education programs at various education levels with support from Federal, State, and private funds. These programs reach students early in the educational process and thereby expand minority access to health professions careers.

National Medical Fellowships, Inc., has developed a program to enhance the successful recruitment, admission, and retention of minority students by helping economically disadvantaged premedical students to develop effective admissions and financial planning strategies when preparing for medical school. The Robert Wood Johnson Foundation provides support for a Minority Medicine Education Program, which encourages academically talented

minority college students interested in medical careers. The Foundation also has funded grants to study the status of minorities in medicine and the effectiveness of intervention programs. In pursuing the Minority Medicine Education Program's goal of increasing minority acceptance rates in medical schools, the Foundation funds a summer laboratory experience that exposes students to both clinical and research aspects of medicine, and provides an M.D. or Ph.D. mentor. Counseling regarding medical school selection is provided, as well as MCAT preparation and review.

The Pew Charitable Trust has funded grants for institution-initiated requests targeted for minority premedical students and medical school matriculants. They support summer enrichment programs for juniors and seniors in college and a range of academic, social, and career-oriented programs designed to enhance retention and graduation of minority medical students. The Association of American Indian Physicians (AAIP) sponsors a Health Careers Opportunities Program grant. The objective of this program is to identify promising high school graduates and college undergraduates and provide them with skills to gain admission to and graduate from schools of medicine and other health professions.

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Aspira of America, Inc., sponsors a health careers program that addresses the health needs of the Hispanic community by working with high schools, postsecondary institutions, and medical and health professional institutions to facilitate entry of students into medical schools. This is a particularly important program, since Hispanics are at the highest risk of low educational attainment and are the most difficult to educate because of poverty, language barriers, and limited educational resources.

At the public level, the Federal Health Careers Opportunity Program (HCOP) has provided opportunities for disadvantaged students for the past 20 years. Preferential treatment for funding is given to institutions that identify seven or more minority college graduates and enroll them in a special post-baccalaureate program that would ensure admission to that institution. Also, the State of Illinois, through its College of Medicine, has developed an urban health program to identify, admit, and graduate minorities from the medical college. An early outreach program identifies talented students from grammar school to high school who are interested in pursuing a medical career. An extensive recruitment program includes establishing a summer program to stimulate interest in medicine

among minorities. Also, a program is held during the summer prior to matriculation to expose minority students to the medical school environment. As of 1987, the medical school ranked first in total minority graduates among majority medical schools and ranked first in the number of Hispanic graduates. Forty-eight percent of University of Illinois minority graduates undertook residency training in primary care as opposed to 29 percent of majority graduates. Approximately 50 percent of the medical school's majority graduates have left Illinois, whereas 75 percent of the minority graduates practice in underserved areas of Chicago and the State of Illinois.<sup>10</sup>

***The need for more financial support of a medical school curriculum designed to stimulate and maintain interest in a primary care career***

In addition to direct financial support for recruitment and retention of minority students, there is a major need for funding of curricular changes in order to increase the number of students (including minorities) who choose primary care careers. The current curriculum of most U.S. medical schools proceeds from organ system dominated basic science instruction to specialized clinical training concentrated in tertiary care hospitals. Students are not

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adequately exposed to the science of primary care (such as clinical epidemiology and behavioral science) nor do they work with primary care role models in ambulatory teaching centers at that stage in medical school (before the fourth year) when they are making career choices. This has contributed to the continued reduction in the percentage of students (both majority and minority) choosing primary care careers, especially those based in **under-**served areas.<sup>7 13</sup>

The needed curricular changes include more appropriate course content and role model exposure in the first 2 years of medical school and required primary care clerkships of at least 8 weeks duration in the third year (or a continuity primary care experience throughout the medical school experience). Schools, such as the University of New Mexico, which have made such curricular changes have demonstrated increased student interest in primary care careers.” Development and teaching of this curriculum is largely the responsibility of generalist faculty in family medicine, general internal medicine, and pediatrics. In most medical schools, these faculty are under-represented, underfunded, and heavily committed to patient care and traditional teaching. They are unlikely to generate substantial revenue from their clinical

practice because of current reimbursement policies and are less likely to attract major grant support. Substantial supplemental funding must be developed to allow these faculty members the protected time to develop and implement this new curriculum. These funds should come from a redirection of current medical school resources,” expanded State funds (especially in those States recognizing a shortage of primary care physicians), and foundation support.

### **Graduate Medical Education**

#### ***The need for expansion and modification of primary care ambulatory training sites***

**The** need for increased training in the ambulatory setting for virtually all postgraduate education, and especially that in primary care specialties, has been extensively addressed in the last several years.<sup>16 17 18</sup>

The current mix of patients in most teaching hospitals predominantly consists of either critically ill persons (frequently with malignant disease), AIDS, end-stage problems of the frail elderly, or those admitted for pre-planned invasive diagnostic and therapeutic procedures. This clinical experience does not represent suitable training for a career in which greater than

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90 percent of practice activity will occur with a different spectrum of patients and health problems in an ambulatory setting.”

However, it is not only the patient mix and inpatient setting that makes current training inappropriate for both the education of primary care physicians and the attraction of medical students with primary care interests to these residencies; the setting, organization, and quality of current ambulatory training is also problematic, especially in many residencies where the ambulatory teaching base is a hospital-based clinic for an underserved patient population. These clinics attract a very **difficult** group of patients with complex, chronic physical and mental disorders. They require the most experienced physicians and extensive nursing and social service support systems. Instead, these patients are often cared for by tired junior residents, extracted from busy inpatient services for a half-day clinic located in an inefficient, crowded, and inadequately staffed outpatient department. Despite these barriers, primary care training programs have managed to increase the percentage of their graduates continuing in primary care **careers**.<sup>20</sup> However, most of these graduates choose to practice in settings that do not provide care for the underserved or else they enter academic careers to be protected from the burnout of

institutional-based primary patient care. The graduates of the Residencies in Social Medicine at Montefiore in New York are notable exceptions; many have continued to practice in the South Bronx or other underserved **areas**.<sup>21</sup>

A number of changes are needed in ambulatory training sites that provide care to underserved patient groups if they are to be effective vehicles for increasing the supply of primary care physicians practicing in these areas. First, they must be **well-**managed, efficient patient care operations. This requires effective leadership from an administrative staff that includes experienced primary care physicians and educators. Also required is adequate space in order to permit efficient patient flow. Clinics should have modern computerized information systems for registration, medical records, and billing. Other necessities include an adequate number of well-trained, nonphysician personnel, especially in nursing, social work, and behavioral medicine and, of critical importance is a sufficient number of faculty physicians who are excellent role models. These experienced physicians should provide the majority of care, with residents and students involved in a smaller percentage of the visits. This balance is needed to enhance community and patient acceptance, improve

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revenues and efficiency, and protect residents from excessive service demands and overly **difficult** patient panels.

Also, the resident must identify the ambulatory care center as the core of his training experience. The resident should “rotate out” of the center for specialty and inpatient rotations rather than being extracted from these rotations to see patients in a clinic. For this to occur, continuity time must be expanded, at least at the **second-** and third-year levels, to at least 2 or 3 half-days per week. Family practice programs, partially because of accreditation requirements, have been fairly successful in doing this; general internal medicine and pediatrics programs need to move further in this direction. “Pairing” of residents for coverage of inpatient and specialty services can be very helpful in facilitating this increased commitment to the ambulatory site. In addition, the core curriculum of the residency (conferences, projects, journal clubs, and retreats) should be based at the ambulatory center. This enhances contact time with role model faculty, increases the academic atmosphere at the center, and focuses more attention on the patient care issues of the center rather than the hospital. With underserved minority patient groups, an opportunity for residents to work on solutions to these community health issues

can be a powerful stimulus to continued practice in these **communities**.<sup>21</sup>

### ***Financial barriers to expansion of ambulatory training***

Although a number of difficulties potentially restrict the expansion of ambulatory training, the major barriers are of financial origin.” Following a review of current funding sources, we will discuss the causes of financial problems in the ambulatory setting and possible approaches to overcoming these obstacles.

The major sources of funding for ambulatory training presently are patient care revenues, direct Federal graduate medical education support through Medicare and Medicaid payments to hospitals, and direct educational support by State and local governments.” Patient care revenues represent the greatest source of **support**.<sup>23</sup> The patient care revenue derived by the ambulatory training site depends on the number of patients that can be seen during a given period of time, the level of charges, the insurance coverage, and the collection ratio. Additionally, hospitals receive revenue from any patient admissions as well as ancillary tests provided to the clinic patients (in the absence of **capitated** payment). Thus, many teaching hospitals

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subsidize the operation of clinics by not attempting to recover full overhead costs.

Another source of funding is the payment by Medicare to hospitals for its share of the costs associated with graduate medical education. Payments for direct costs support residents' salary and fringe benefits as well as supervisory faculty, whereas payments for indirect costs are in recognition of the higher expenses incurred by teaching hospitals. The present regulations for Medicare direct costs support are derived from the Consolidated Omnibus Budget Reconciliation Act of 1985. Three factors determine the level of these payments: (1) the hospital's allowable cost per resident during the first year of prospective payment with subsequent adjustment for inflation, (2) the hospital's number of full-time-equivalent residents, and (3) the percentage of total hospital days devoted to the care of Medicare patients. Resident positions are counted according to a weighted system that allocates factors of 1.0 for the initial residency and 0.5 for subsequent training years. The term "initial residency period" is defined as the period of training required to qualify for Board eligibility **plus** 1 year but not to exceed a total of 5 years. (An additional year is provided for residents or fellows in "geriatric medicine" programs.) All other

years are considered to be subsequent training years. These expenditures were expected to reach \$975 million in fiscal year 1988."

By contrast, Medicare payments for indirect costs were approximately \$2 billion in 1988.<sup>24</sup> This latter payment is based on a formula that includes the resident-to-bed ratio, the payment percentage mandated by Congressional statute, and the actual DRG payment for each payment. Hospitals with a higher resident-to-bed ratio receive proportionately higher DRG supplements for indirect costs. However, the increment related to a higher resident-to-bed ratio is not on a one-to-one basis but calculated with a curvilinear formula. Each 0.1 increment in resident-to-bed ratio represents an additional increment of approximately 7 percent of the DRG payment for a given patient. Thus, a **450-bed** hospital with 150 residents would have a 0.33 **resident-to-bed** ratio and would receive an approximate 23 percent increment on all DRG payments. These indirect costs, in combination with direct costs, can add up to a Medicare payment per resident well in excess of \$50,000 per year for many hospitals.

Before 1986, the time residents spent in outpatient settings could be included in the

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calculation for direct costs support only if the setting was a part of the hospital. In 1986, through a provision in the OBRA, Congress broadened the responsibility of Medicare by mandating that residents' time devoted to ambulatory settings should be recognized if the hospital incurs "all or substantially all" of the costs of training. This provision thereby allowed payment of direct costs for residents' time devoted to ambulatory settings not located at the hospital or owned by the hospital. However, the time spent by residents in this type of setting is not included in the full-time-equivalent calculations for the payment of indirect costs. For example, if a faculty practice plan assumes responsibility for administering a hospital clinic (even at the same location) the residents' time no longer may be counted toward the indirect adjustment of the hospital, and thus is not supported by Federal indirect payments.

Many patients who seek care at ambulatory teaching sites are indigent and are covered only by Medicaid. Usually, Medicaid payments are lower than those of Medicare and other payers. In most states, there is minimal, if any, provision for educational reimbursement; however, policies differ greatly in each **state**.<sup>25</sup> A notable example of Medicaid providing a major level of support for ambulatory training sites is New

York. Article 28 of the New York Medicaid Statute authorizes institutional provider rates for qualified institutions. The State determines costs for each institution, and then the institution can bill on an average per visit cost."

The CHC, which serves as the base for the family practice component of the Montefiore Medical Center residency program in social medicine in the Bronx, provides a good example; here the per visit fee is \$80. This reimbursement is **sufficient** to provide quality care at a **break-even** basis in a teaching center; however, administrative costs of the education program and the support of **nonrevenue-generating** faculty are not covered. Another New York example is the family practice program at the State University of New York at Buffalo. While New York Medicaid pays only \$10-12 for a physician's **office** visit, it has an institutional provider rate of \$70-80 per visit for most institutions in the Buffalo area. This level of reimbursement allows hospitals to utilize an appropriate level of faculty physician staffing at ambulatory training sites. The residency program is supported and a reasonable quality of care is provided to the **poor**.<sup>23</sup>

Another source of support via governmental sources is revenue paid for physician **ser-**



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vices under Medicare Part B (the following principles also apply to payments for physician services **from** other sources). Revenue from faculty care of patients constitutes a major source of support for medical **schools**.<sup>26</sup> Faculty members increasingly must subsidize teaching activities from their clinical income. However, this is more **difficult** for primary care physicians in the ambulatory setting, since the payment for a physician's inpatient care visit is from 11 to 33 percent higher than payment for a similarly coded outpatient **visit**.<sup>27</sup> Also, the payment to a primary care physician for evaluation and management services is substantially less than the payment to a subspecialist for a procedure in the ambulatory **setting**.<sup>28</sup> Also, for Medicare billing, the medical record must clearly indicate that the supervising physician personally performed the service or was present when the service was provided. Colwill has observed that compliance with this regulation requires the presence of additional faculty and compromises the relationship between the resident and the patient while not resulting in any better **care**.<sup>29</sup> Thus, at present, faculty physician fees do not represent a predominant source of support for ambulatory training.

An additional source of support is direct Federal or State grants. Currently,

Title VII of the Public Service Act supports education in general internal medicine, general pediatrics, and family **medicine**.<sup>28</sup> This Federal support has been helpful in developing new curricula and establishing new programs; however, funding has been relatively limited. Only about 15 percent of internal medicine and pediatrics residencies per year have received support from this program. Furthermore, annual appropriations have varied causing persistent uncertainties regarding the level of funding and even whether the program would be reauthorized. Nevertheless, despite the limited number of programs funded each year, 69 percent of the primary care programs in general internal medicine and general pediatrics initiated between 1976 and 1986 did receive some Federal funding from this program. Given the small investment (the current level of funding for medicine and pediatrics approximates \$18 million per year). This grant support has been notably effective in enhancing primary care ambulatory training. Internal medicine residents whose training has been supported in this manner have an impressive record in choosing general medical practice." Direct State grants for clinical education are highly variable with respect to manner and amount of **funding**.<sup>25</sup> Most of these grants are explicitly committed to family medicine residencies with yearly

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subsidies ranging from \$1,353 to \$40,478 per resident.

Family medicine residencies are structured differently than other primary care residencies. In general, rotations are hospital based for the first year with financing from hospital sources. In the remaining 2 years, education is in the ambulatory setting with funding from grants and fees for services generated by faculty and residents. Residents who are licensed may have their services billed for in these settings, although not in the hospital setting. In one survey, 31 percent of total program cost was derived from patient care **income**.<sup>30</sup> Perkorr has estimated that a maximum of one-third of the expense of primary care education could be generated **from** patient **fees**.<sup>31</sup> Family medicine residencies and faculty received funding from 32 states in 1985.<sup>32</sup>

Private sources of support include faculty practice plans and foundations. Faculty practice plans usually are organized on a departmental basis with procedural specialties able to generate much higher revenues than primary care specialties. Revenues from these plans flow to the department, with a small percentage to the institution. Haft notes that the organization of medical schools on a departmental basis and gradu-

ate medical education on a specialty/program basis, combined with a departmental flow of hospital and practice plan revenues, leaves the medical school with a paucity of flexible **funds**.<sup>32</sup> Thus, there is little ability to cross-subsidize, particularly in those institutions that do not receive public appropriations. Therefore, high-earning departments (which do not include primary care departments) retain the majority of practice earnings for departmental priorities. The most notable foundation effort in the funding of ambulatory training was that instituted by The Robert Wood Johnson Foundation in 1980. They sponsored a program to develop general internal medicine primary care practices in 15 teaching hospitals. These practices were established in low-income areas and were to emphasize a setting in which residents were trained in the behavioral and social aspects of being a primary **provider**.<sup>33</sup> The most recent foundation initiative is sponsored by the W.K. Kellogg Foundation in an effort to develop community-based academic centers dedicated to interdisciplinary primary health care education.

### ***The basis for financial barriers***

There is general agreement that it is more difficult to finance primary care ambulatory training than inpatient graduate medical

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education. However, there is little agreement as to whether this discrepancy is caused by the higher costs in the ambulatory setting due to inefficiencies in the education process and/or the delivery of services, or by deficient revenue due to a financing system that provides substantially greater reimbursement for clinical/educational activities in the inpatient setting.

Regarding costs, **Kasonic** believes that the adequacy of financing for ambulatory training will depend upon **controlling** costs by improving the economy and efficiency within ambulatory settings with relation to patient care and education.” In evaluating The Robert Wood Johnson Foundation practice sites, Kosecoff, et al., observed that practices were managed very inefficiently. They found that staff time was not well utilized, patient scheduling was not well carried out, and that use of space was **inefficient**.<sup>33</sup> Another factor contributing to high costs is adverse patient selection. Indigent patients tend to have more complex and serious illnesses. This is of particular concern with **capitated** populations. Also, residents’ propensity to order more laboratory tests and radiology procedures increases costs. As residents provide less care on inpatient services, arrangements are necessary to replace them. These may include hiring salaried physi-

cians, more nurses, or physician assistants. The effect of this on the cost of ambulatory training will depend on the relative cost and productivity of the substitute providers?’<sup>36</sup> Finally, the educational process is more costly in the ambulatory setting. The resident is both a student and a teacher in the inpatient setting, since residents spend a significant proportion of their time training medical students and other residents.” However, the teaching role of the resident in the ambulatory setting has not been well defined. At present, a much greater level of attending physicians’ time is required for ambulatory teaching. This is often on a one-to-one basis, rather than a group basis as facilitated by inpatient teaching.

Inadequate revenue serves as the other financial barrier. Watt has delineated a number of critical problems in the current financing of graduate medical education in the ambulatory setting. These include more restrictive policies concerning payment for ambulatory services by third-party payers, the need to rely on “soft and fragmented funding sources, and the fact that new managed care systems have little economic margin to support the cost of medical **education**.”<sup>20</sup> Delbanco and **Calkins** recommended enhancing revenue that focuses on maximizing patient visits while achieving

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teaching goals.” **Kasonic** has emphasized the importance of coordinated planning, improved accounting systems, and improved management information systems for the enhancement of revenue.” A 1985 study of the primary care unit at St. Louis University Medical Center reported that “revenues recovered were limited by low productivity and collection rates.” These authors proposed the necessity for clinics providing incentives to improve provider productivity and receiving credit for hospital profits from ancillary **services**.<sup>23</sup> Kosecoff, et al., have suggested the development of stronger incentive systems to link efficiency and performance of faculty to financial **rewards**.<sup>33</sup> Revenue is lost through the loss of productivity that accompanies involvement of trainees on the medical team. While senior residents may require only limited supervision, many more junior trainees evaluate medical problems more slowly. The supervising physician, therefore, sees fewer patients or works a longer day and, thus, experiences a decrease in productivity. Also, other factors leading to inadequate revenue are insufficient physician fees for ambulatory cognitive services (especially for care of geriatric patients) and failure of Medicare to provide indirect graduate medical education reimbursement for ambulatory training in nonhospital settings.

In summary, the treatment of ambulatory patients does not generate the revenue that inpatient care produces. Then, when education of junior residents **and/or** students is introduced as an additional activity in this setting, revenue often declines as productivity falls. When compensatory revenue from direct Federal or State grants, hospital or practice-plan-derived subsidies, or other private sector support is not available, the higher costs of ambulatory training is not met. In this setting, given the fiscal vulnerability of most teaching hospitals, ambulatory training is unlikely to thrive.

Necessary ***approaches for overcoming the financial barriers to expansion of ambulatory training***

Presently, it would appear that the financial barriers to expansion of ambulatory training are substantial and will obstruct the necessary movement of primary care residency training to the ambulatory setting. The urgency to develop a new financial strategy is underscored by recent events within the internal medicine training arena. In the fall of 1988, the RRC for Internal Medicine put forth a new set of special requirements that mandates a minimum of 25 percent of the **3-year** training program be devoted to ambulatory settings. The Accreditation Council on Graduate Medical Education

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(ACGME) agreed to an October 1989 implementation date. As the cost implications and logistics for complying with this mandate became apparent, the ACGME was placed under great pressure to delay implementation of the “25 percent **rule**.”<sup>38</sup> Thus, regardless of the broad acceptance of the concept that a major expansion in ambulatory training is a necessity for the **1990’s**, the insufficiency of current support for ambulatory training may provide an insurmountable barrier. It is apparent that the same type of problems apply with respect to pediatric ambulatory **training**.<sup>39</sup> Furthermore, although family medicine residency programs already involve a major commitment to the ambulatory setting, severe deficiencies of funding threaten the viability of many programs (Colwill). Thus, well-funded and thereby smoothly functioning ambulatory training sites that are necessary for the attraction of minority medical students and other students into a primary care career pathway will not be available without implementation of a new strategy to deal with financial barriers.

Recognizing the foregoing problems, a committee of the IOM carried out a study to develop strategies for overcoming barriers to financing primary care graduate medical education in ambulatory settings. The cornerstone of this study was a

workshop held in Washington, DC, April 18 and 19, 1989. Leaders in the three primary care specialties of general internal medicine, general pediatrics, and family medicine were invited to the workshop. Experts in medical education financing, hospital administration, academic administration, policy analysis, and the insurance industry were also invited. Available data were reviewed regarding the financing of primary care graduate medical education in ambulatory settings. Because of the wide variety of primary care teaching programs and existing and potential sites for outpatient training, it was concluded that no single approach to overcoming financial barriers would solve the financing problems of all primary care programs. Thus, a set of wide-ranging recommendations was developed to encourage Federal, State, and local **governments**, hospitals, and private foundations to act decisively and expeditiously.”

The committee developed its recommendations bearing in mind four major considerations. First, primary care graduate medical education should be improved by increasing the time spent in ambulatory settings and increasing the number of sites that closely resemble primary care practice conditions. Second, recognizing that graduate medical education financing

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barriers will not be completely surmounted in the absence of more radical restructuring of revenue flows and hospital financial incentives, it was felt that recommendations were necessary that would immediately start to move the policy process in appropriate directions. Third, expansion of the primary care physician manpower pool and improving access to care for the medically indigent were felt to be important associated goals, which could be accomplished by expanding ambulatory training. Finally, recommendations were developed recognizing that major additional Federal financing for graduate medical education is not likely. The recommendations of the study directly relating to financing were as follows:

- **Physician payment reform**-Medicare and all payers should adopt a **resource-based** relative value scale method of payment for physicians. This would facilitate primary care graduate medical education in ambulatory settings by increasing patient care revenues. The improved earning capacity of primary care faculty would enhance the ability of faculty practice plans to support teaching physicians. Also, economic incentives that deter some candidates from entering primary care would be diminished.
- **Medicare direct graduate medical education payment**-An adjustment to the Medicare payment for the direct cost of graduate medical education should be developed that would create an incentive to establish residencies in primary care and to place those residents in primary care ambulatory settings. The mechanism of this adjustment would involve a differential in the full-time equivalent calculation between primary care residents and other residents. Residents in the three primary care areas should receive a higher weighing factor than other residents. Furthermore, primary care residents who spend 25 percent more of their time in a primary care ambulatory setting (not including specialty clinics) should receive a larger weighing factor. This initiative would make the sponsorship of primary care residencies more attractive to hospitals and would generate revenues needed for the development of quality training programs in community-practice sites. It was deemed to be appropriate that extra support should be provided to needed primary care specialties by directing small amounts of resources away **from** other better-financed specialties not experiencing manpower shortages.

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- Medicare indirect graduate medical education adjustment-Medicare should include, in the calculation of the indirect medical education adjustment, time spent by primary care residents in all primary care ambulatory settings. Furthermore, hospitals should be urged to commit a portion of the revenue from the Medicare indirect graduate medical education adjustment to direct financing of services at **community**-based ambulatory sites for training primary care physicians. This is appropriate since Medicare's indirect graduate medical education payment is in recognition of the cost of education. Thus, hospitals should use some of this revenue to support the primary care ambulatory services that are an essential component of training primary care physicians.
  - State and local roles-States with a present potential shortage of primary care physicians should increase their support of graduate medical education and widen that support to include general internal medicine, general pediatrics, and family medicine. States should be cognizant of the potential for providing cost-effective care represented by primary care physicians. Also, Medicaid programs that do not now support graduate medical education should follow Medicare payment policies. Finally, primary care sites of residency training can contribute substantially to solving access problems for medically indigent populations by providing cost-effective, appropriate services. The training sites benefit from the additional revenues generated by State or local support of this activity. Thus, primary care graduate medical education programs should inform legislators of the potential link between education programs and increased access to care for underserved populations.
  - Grants-Funds available through Title VII of the PHS Act should be directed toward the development of innovative model programs and demonstration sites from which others can learn regarding new approaches to arranging and supporting ambulatory training. Additionally, these grant programs should continue to play a role in faculty development. Because of insecure funding, grants should not be regarded as a source of prolonged operating support. Nevertheless, Federal grants can have an important catalytic role in the development of ambulatory sites. Local and national private foundations

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interested in medical education and the provision of health services should collaborate with Federal funding programs, thereby enhancing the benefit of the limited Federal funds.

- **Efficient use of training resources—** Budgeting and planning for primary care ambulatory training sites should consider the need to develop effective clinic management. Efficient operation of training sites makes a significant contribution of fiscal viability of the training program. Additionally, facilities and other resources should be shared across specialty lines in an attempt to achieve economies of scale.

These recommendations were first intended as immediate steps in dealing with financial barriers to the expansion of ambulatory training. In addition to the recommendations of the IOM study, there are other approaches that could be considered to enhance the fiscal viability of ambulatory training sites. A medical-education fund created out of general tax revenues or an all-payer tax levied on most providers, including hospitals, has been suggested by **Petersdorf**.<sup>26</sup> Medicare's burden would be relieved by such a system that requires all payers to support their fair share of graduate medical education. Medical school

practice plans could play a more active role in supporting ambulatory training, as suggested by **Perkoff**.<sup>31</sup> It would be reasonable for procedure-oriented subspecialties that generate a high level of income to cross-subsidize ambulatory sites in view of the potential for increased referral as these centers expand. Also, when considering an appropriate subsidy for ambulatory training sites, teaching hospitals should be encouraged to recognize that ambulatory care programs generate substantial ancillary service income and revenue from admissions."

To reduce costs, faculty salary and other educational expenses should be reduced by integrating educational programs within the primary care specialties wherever possible. For example, behavioral medicine faculty should be able to serve the needs of all primary care residencies within an institution, as opposed to individual behavioral medicine programs for each individual residency. A strong incentives system should be developed for faculty to improve efficiency and control costs—a goal not only important for fiscal viability but for appropriate role modeling.

Thus, through revenue enhancement, cost control, and redistribution of dollars, there is substantial potential to modify our



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current system of financing ambulatory training without a major infusion of new Federal funds. However, these initiatives will require strong leadership from the academic community and close collaboration from Federal, State, and community funding sources. This will materialize only if all concerned recognize the critical importance of ambulatory training as a means of addressing the serious primary care medical manpower shortage that we face in the 1990's.

### **The Need for a Coordinated Program That Overcomes Financial Barriers**

In a recent public address, Dr. Louis Sullivan, Secretary of the DHHS, described the current crisis in urban health care. He noted that minorities do not have sufficient access to affordable health care and that the death rate for blacks is 1.5 times higher than that of **whites**.<sup>43</sup> Minorities consistently lag behind nonminorities in numerous health care indicators, such as maternal mortality rates, death rates from chronic diseases, and control of hypertension.

In a recent publication, **McCord** and Freeman conclude that Harlem, and

probably other inner-city areas with largely black populations, have extremely high mortality **rates**.<sup>44</sup> Although in recent decades mortality rates have declined for both white and nonwhite Americans, the national averages obscure the extremely high mortality rates in many inner-city communities. Using data from the 1980 census and from death certificates in 1979, 1980, and 1981, mortality rates in New York City's Central Harlem Health District were examined. In that District, 96 percent of the inhabitants are black, and 41 percent live below the poverty line. The **age**-adjusted rate of mortality from all causes was more than double that of U.S. whites and 50 percent higher than that of U.S. blacks. Almost all the excess mortality was among those under 65. The chief causes of this excess mortality were cardiovascular disease, cirrhosis, homicide, and neoplasms. Survival analysis shows that black men in Harlem were less likely to reach the age of 65 than men in Bangladesh. It should be noted that these data do not reflect the increase in mortality related to AIDS and drug abuse observed over the past decade.

National Cancer Institute studies indicate significantly lower **5-year** survival rates for blacks with cancer of the bladder, breast, larynx, rectum, or **uterus**.<sup>45</sup> Minority males have the shortest life expectancy of all

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population groups in the United States. The death rate for minority babies during the first year of life is nearly double that of nonminority babies. In nearly all age groups, death rates among minorities are higher than for **nonminorities**.<sup>45</sup>

With regard to utilization of health services, DHHS data reveal that blacks are less likely than nonminorities to have had one or more physician or dentist visit within the preceding 2 years. They are, however, more likely to have had one or more hospital admissions during that same period of **time**.<sup>46</sup> Additionally, minorities and **low-income** families experience the greatest difficulty in acquiring and regularly utilizing medical services. Furthermore, black women are more than twice as likely as nonminorities to have only third trimester prenatal care or no prenatal care at **all**.<sup>46</sup>

Multiple and complex factors contribute to the urban health care crisis; nevertheless, the undersupply of primary care physicians committed to caring for underserved urban minorities is clearly a major contributing factor and is of great concern. According to population projections, by the year 2000 the black and Hispanic populations combined will constitute approximately 25 percent of the United States' population. Black and Hispanic physicians, however,

will represent only 4.1 and 3.4 percent of the Nation's physicians. In 1985, DHHS figures indicate that the ratio of minority physicians to minority populations was 60 per 100,000, while that for nonminorities to nonminority populations was 245 per 100,000." In 1990, the unfavorable balance of this ratio has not improved and no improvement is projected for the year 2000. Although Hispanic doctors outnumbered black doctors in 1985, the situation is likely to be reversed by the year 2000 because of a significant decline in the immigration of Hispanic physicians.

Compounding the current urban primary care manpower deficiency is the overall shortage of primary care physicians, which is likely to exacerbate in the near **future**.<sup>46 47</sup> Causative factors are increasing demand due to the increasing number of elderly and AIDS patients and decreasing supply caused by physician attrition due to early retirement or the decreasing attractiveness of urban practice and the desire of recent graduates to pursue a more balanced lifestyle with fewer working hours. Considering the foregoing factors that contribute to the currently evolving imbalance between supply and demand, recent compelling evidence that primary care specialties are losing their **attractive-**

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ness to medical students is particularly distressing.

The National Resident Matching Plan results for the past few years indicate that the total number of U.S. medical school graduates matching in primary care specialties has decreased by 970 graduates. Furthermore, the **AAMC's** graduation questionnaire suggests a declining interest in primary care careers among those entering internal medicine and pediatric **subspecialties**.<sup>40</sup> Between 1982 and 1988, interest in general internal medicine decreased from 14 to 8 percent of graduating medical students, from 6 to 5 percent in pediatrics, and from 15.5 to 11.2 percent in family practice. Total interest in primary care specialties dropped one-third; thus, only 24 percent of 1988 graduates planned primary care careers. On the basis of available data, Colwill has projected that senior medical students' interest in the three primary care specialties will undergo an additional decrease by 1992, when only 17 percent of graduating seniors will be pursuing a career in primary care. The basis for this declining interest in the primary care specialties continues to be speculative. Nevertheless, higher income expectations in other fields, lifestyle issues, heavy indebtedness, and the attractiveness

of new technology in other specialties clearly are major **factors**.<sup>38</sup>

Availability of an adequate pool of primary care physicians is a basic ingredient for any solution to the urban health care crisis and must receive immediate attention. We maintain that a focus upon minority medical student recruitment and retention to a primary care career pathway should be a key strategy; implementation of this strategy will necessitate surmounting the financial barriers to recruitment and retention of these students. We suggest that these barriers relate to both individual student financial needs, financing of minority student support systems, and financing expansion of undergraduate/graduate ambulatory education—an educational program of critical importance for recruitment and retention of minorities and others to the primary care specialties.

At a time when major Federal funding initiatives are unlikely, it would appear that the implementation of the previously outlined strategy would be achieved most effectively by development of a program designed to be a public/private partnership confronting financial barriers through cost control and revenue enhancement. In order to attain this goal this program would need to: (1) serve as a catalyst for fund raising

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via public/private synergy; (2) provide optimal utilization of available loan and scholarship funds; (3) establish a PCCP with well-defined steps and financial support mechanisms ranging from junior high school to ultimate establishment of an urban primary care practice; (4) facilitate provision of fiscally sound undergraduate/graduate ambulatory primary care education sites attractive to minorities and others for training and eventual practice; and (5) link these efforts with the provision of **cost-effective** care for underserved populations in a clinical program, which would serve as an invaluable education and health care research resource. We believe that creation of a new Federal program involving the establishment of **UHECs** could meet these objectives. These Centers would serve as the base of an administrative structure which would create an effective public/private partnership committed to support of a PCCP for minority students. We will describe this program in detail, with an emphasis on its cost containment and revenue enhancement features.

### **UHEC-A Federal Initiative to Support a Primary Care Career Pathway**

The goal of each UHEC would be to advance the quality, availability, and **cost-effectiveness** of urban health care services through recruitment and retention of minorities to a PCCP. Objectives of the centers would be to:

- Provide the administrative structure and expertise necessary for initiation and support of the PCCP.
- Provide the administrative structure and visibility necessary for developing synergistic public/private financing in support of the PCCP.
- Serve as the fiscal intermediary administering public and private sector loans and scholarships, both at the premedical and medical school level, for PCCP minority students and possibly other minority health sciences students, thereby eliminating the current fragmentation of resources.

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- Provide a health professions recruitment center, designed to support an active outreach program within the community.
  - Provide financial counseling and employment services for minority candidates throughout the PCCP.
  - Serve as a health professions career counseling and remedial learning center.
  - Serve as a major resource for ambulatory training at both the undergraduate and graduate levels for all medical students and primary care residents.
  - Serve as a major community resource for cost-effective, highquality care for underserved urban patients, as well as a site for community health education of these patients.
  - Provide physician manpower and other support services to urban community health centers.
  - Contribute to the fiscal viability of urban teaching hospitals and medical schools by provision of a solidly financed ambulatory setting and by contributing to the support of primary care faculty salary.

- Serve as a training site for the allied health professions (nurses, laboratory and x-ray technicians, physician assistants, etc.) with an emphasis on minority recruitment and training.

We would propose that these centers should be structured as an independent, nonprofit corporation. The UHEC would utilize the fiscal and administrative expertise of the associated teaching hospital and medical school. Administrative roles within the center could be assumed by medical school personnel as either a part-time or full-time activity. The UHEC board of directors would consist of medical school and hospital personnel as well as community representation; there would be a community advisory board.

One approach for administering the **UHEC** would be the development of a primary care and community medicine program. This would be a matrix organization with family practice, general internal medicine, and pediatric components. The UHEC director and chairman of the executive committee of its board possibly would be the director of the primary care and community medicine program; the medical school dean might serve as chairman of the UHEC board. All personnel, including clinic personnel, would be employed by the

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corporation. On a short-term basis, necessary space might be obtained via rental of hospital clinic space or conversion of underutilized inpatient space if available. Ultimately, State or municipal/county bounding authority could be sought for construction of new space, if community philanthropy or foundation support were not available.

A Federal initiative would be necessary for funding the administrative component and core staff of the centers and for preliminary planning grants. This could fall within the programmatic jurisdiction of the HRSA and could be funded via specific authorizing legislation under Title VII, in view of the precedent of previous legislation establishing AHECs. Federal support at a level of less than \$2 million per year per center would be adequate (following a preliminary planning grant) if (1) medical school UHEC partners were required to provide 25 percent of the center's core budget; (2) the NHSC Scholarship Program were to be reinstituted with a funding level sufficient to cover medical school scholarship support for PCCP students; (3) public/private premedical scholarship and loan funds for minorities were available at a sufficient level for PCCP candidates; and (4) many of the IOM recommendations for overcoming financial barriers to

ambulatory primary care training were implemented, thereby enhancing the overall fiscal viability of the **UHEC** and facilitating the link between clinical education and the primary care of underserved patients.

Could the presently established AHEC program be modified in order to meet the objectives that we have outlined? **AHEC** programs have been developed in 33 states over the past 18 years. Their primary purpose has been to move health education programs away from the professional schools into areas of special need, especially to rural communities. In some states they have made significant contributions to meeting primary care needs in **underserved** areas. While we believe that **AHECs** can contribute to the solution of the growing urban health care crisis, their present structure does not allow fulfillment of many of the previously stated objectives. Some of the major limitations in this regard are: (1) AHECs tend to be predominantly rural in their emphasis; (2) they support a broad range of health professional education, thus not providing enough targeted resources for primary care physician training; (3) they do not have a specific minority focus; and (4) their administrative structure differs substantially from what we have proposed for **UHECs**. Thus, we believe that the proposed activities and structure of the

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UHEC program represents a unique Federal initiative involving objectives that could not be achieved by the AHEC program as presently structured. Proposed UHEC activities might be funded as follows:

- Patient care-Medicare, Medicaid (with **capitation** or federally mandated institutional rates for **UHECs** in order to accommodate ambulatory training), State **capitated** programs for the uninsured, private insurance, and possibly a health care providers tax or other local taxes.
- Resident salaries-Medicare graduate medical education direct costs for resident time spent in the ambulatory setting would be paid directly to UHECs. Also, Medicaid payments, direct State grants, and Title VII primary care grants.
- Faculty salaries-Medicare graduate medical education direct and indirect costs would be paid directly to **UHEC** for resident time spent in UHEC. Title VII primary care grants, practice income, direct medical school support for teaching and direct hospital support for administrative activities.
- Other teaching expenses-Medicare graduate medical education indirect costs, medical school teaching funds, faculty practice plan support, and Title VII primary care grants.
- Health Professions Recruitment, Student Counseling, Remedial Learning, and Financial Advisory Centers-Administrative and core support staff would be supported by Federal and medical school funding of the UHEC, additional staff would be supported by any surplus funds generated by UHEC practice activities, the faculty practice plan, and foundations, or other local philanthropy. An assured minimum level of private sector funding would be required prior to awarding an operational grant to the **UHEC**.
- Patient outcome and cost-effectiveness studies-The HCFA of the DHHS might be an appropriate source of funding.

The mission of the UHEC would be the administration of the PCCP, with provision of financial support for the core staff of each of its key minority recruitment and retention functions, as represented by the centers noted above. The sequential steps

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of the PCCP and their relationship to the UHEC would be as follows:

- **Junior High** School-Motivation and recruitment programs at the UHEC health professions recruitment center and in schools would be carried out by UHEC faculty, residents, and medical students, utilizing an approach similar to the Baylor program.
- **High School**-There would be a close relationship of health professions recruitment centers with magnet schools or other components of the secondary educational system focusing on health career development. The UHEC would provide college advisory and financial counseling services as **well** as initiating a mentor program. A UHEC employment agency would facilitate summer and after school employment as both an educational experience and a means of financial support.
- **Premedical Training**-Enrollment in local colleges would be encouraged in order to allow students a continued close relationship with **UHEC** counseling, mentoring, remedial education, and employment services. Where academically appropriate, a **3-year** premedical curriculum would be acceptable prior to medical school matriculation as a means of cost control. The UHEC would administer educational assistance loans and help procure scholarship support for students when possible. Funds for the foregoing would be derived from Federal, State, and community sources. Student employment would be facilitated by the UHEC employment agency.
- **Medical School**-The UHEC would serve as an educational site throughout a 3-year medical school curriculum, with clinical correlation sessions and teaching of physical diagnosis carried out at the UHEC during the first 2 years of the curriculum. The UHEC student counseling, financial advisory, and remedial learning centers would interact actively with students. During the third year, a **3-month** primary care curriculum would be based in the center or in an affiliated CHC. A strong faculty mentor program would be maintained for all students via the student counseling center. NHSC Scholarships would serve as support for tuition, books, and living expenses for the entire 3 years of medical school; funds would be administered by the UHEC. At various steps throughout medical school, opportunities would be



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available for opting out of the primary care track, with appropriate provisions made for pay-back of scholarship funds.

- First-Year Residency (Traditional fourth year of Medical School)-The ambulatory training component of the curriculum for that year would be carried out within the UHEC or affiliated **CHCs**. Upon completion of this year of undifferentiated primary care residency, an M.D. degree would be conferred, as suggested by Ginsberg and **Ebert**.<sup>48</sup> During this year, the resident would initiate a protracted repayment program for college loans, with reasonable payments deducted **from** the resident's salary.
- Completion of Residency-Two additional years of residency would be committed to training in family medicine, internal medicine, or pediatrics, thereby leading to Board eligibility in one of those primary care specialties. During this period, loan repayment would continue, aided by "moonlighting" opportunities, which could be facilitated by the UHEC employment agency.
- Postresidency Training-One additional residency training year would be

required for PCCP physicians as preparation for working in the UHEC or a CHC as a clinical faculty member in order to fulfill the NHSC scholarship repayment commitment. Alternatively, a **2-year** academic general internal medicine fellowship (or other primary care fellowship training relating to geriatrics, pediatrics, family medicine, adolescent medicine, etc.) would **be** appropriate if the candidate desired a full-time academic career. Again, deductions from the fellow's or resident's salary would be applied to outstanding college loans.

- Primary Care Faculty Position-This would be a clinical faculty or full-time academic position depending on previously noted training. The PCCP graduate would be located at the UHEC or an affiliated CHC. Salary throughout this **3-year** NHSC "pay-back period" would be at an entry level primary care rate consistent with community standards. The UHEC would continue to administer the college loan pay-back program with salary deductions. It is anticipated that the subsequent career pathway of a high percentage of PCCP graduates would involve permanent positions with **UHECs** or affiliated **CHCs**.

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As noted, the PCCP is administered by the UHEC in a manner that insures optimal utilization of UHEC personnel and financial resources, while fostering an opportunity to avoid major student indebtedness and loan default. Some specific financial advantages of the PCCP and its supporting UHEC include:

- Minority PCCP candidates can project the financial requirements for their career development from the time of their initial interest. Thus, a financial plan can be clearly established for each candidate with little basis for early discouragement on the basis of deficient personal financial resources.
- The presence of ample opportunity for a reasonable repayment schedule of college loans, with total indebtedness limited by work opportunities and scholarship funds.
- Efficient administration of loan and scholarship programs by the UHEC, with longitudinal coordination of indebtedness with financial counseling throughout the career pathway of the candidate and integration of public and private sector support. Therefore, indebtedness should not serve as the

basis for opting out of a primary care career pathway.

- The total undergraduate medical curriculum (premedical and medical school) would be shortened by 1 or 2 years, thereby achieving a significant reduction in total educational expense. The required additional year of residency training (fourth year residency) would be obtained when the candidate is receiving a reasonable salary and has ample opportunity for “moonlighting” income.
- All public and private sector educational assistance funding would be channeled through the UHEC. This allows accurate and rapid assessment of individual student needs and also the needs and effectiveness of the program. Also, this allows for the capacity to rapidly change, i.e., increase or reduce, public support of specific program components in order to attain overall programmatic goals.
- The UHEC would allow a tangible focus of support for community philanthropy with a highly visible product.
- The UHEC would provide an excellent support mechanism for ambulatory

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training at both the undergraduate and graduate level. The projected heavy additional faculty requirement necessary for ambulatory training of students and residents during the coming years would be partially met by PCCP graduates during their NHSC obligation. Also, support for additional faculty would be derived from the supervisory component of the Medicare graduate medical education pass through for direct costs and from assigned Medicare graduate medical education indirect costs. Capitation or institutional payment rates from State Medicaid plans and/or capitation from State uninsured plans could generate a substantial contribution to overall clinic revenue if **capitation** rates were set at a community level. This would be the case because of the reduced requirement for physician renumeration when primary care for the underserved is linked with education (the predominant source of primary care physicians would be primary care residents: subspecialty residents and fellows of the teaching hospital also would be utilized where indicated) and because of savings attainable in a highly-structured, **cost-controlled environment**.<sup>49</sup> Any surplus generated by the UHEC or the associated faculty practice plan could be

utilized for financial support of minority recruitment and retention functions of the UHEC. The UHEC would allow medical schools to limit the financial burden required by a major shift to ambulatory training projected for the 1990's. Financially struggling urban teaching hospitals would be assured a reliable flow of inpatients supported by a reasonable capitation. Also, high-quality outpatient care could result in reduction of illness intensity for inpatients and a good outpatient care system would facilitate more rapid inpatient discharge, both of the foregoing contributing to fiscal viability of inpatient **capitated** care.

In conclusion, we maintain that a key ingredient of the strategy to address our progressive urban health care crisis involves recruitment and retention of minority primary care physicians. We have reviewed the present financial barriers to implementation of this strategy and have suggested a public/private initiative for overcoming these barriers. The Federal component, while not budget-neutral, does not represent a major expenditure and would appear to **be** realistic and attainable in view of experience to date with the **AHECs** program currently administered by the HRSA of the DHHS. The private

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component depends heavily on the willingness of the medical education system to respond with curricular innovations, faculty creativity, and financial support. Also required, is a willingness of medical schools and teaching hospitals to apply their rapidly expanding administrative and fiscal expertise to the **UHEC** program—a crucial element for its success.

At the beginning of the last decade, it is doubtful that many medical schools and/or major teaching hospitals would have stepped forward to meet this challenge. However, many of our urban medical schools and teaching hospitals appear to be reshaping their mission, as suggested by the enormous response recently elicited by the Kellogg Foundation's request for the proposal entitled "Community Partnerships with Health Professionals' Education." Over 111 proposals were received from educational institutions or consortia of these institutions. We would hope that the present proposal, or other possibly **better-**conceived plans designed to bring the resources of academic medicine to bear on the plight of the medically underserved, will serve as a catalyst for an innovative public/private partnership. The medical education establishment has an opportunity, as a component of this synergism, to serve

as an institutional role model of societal commitment for our students and residents.

## Summary and Conclusions

We have reviewed public/private financing of graduate/undergraduate medical education, with an emphasis on overcoming financial barriers to the recruitment and retention of minority physicians who are committed to the primary care specialties and thereby improving access to care for the underserved. At the undergraduate level, we have described: (1) the current status and deficiencies of direct financial aid to minority students; (2) the need for more financial support of counseling and tutorial services for these students; and (3) the need for more financial support of primary care undergraduate education. At the graduate level, we have outlined the need for expansion of primary care ambulatory training, the financial barriers to that expansion, and some recent proposals for overcoming those barriers. We propose that any strategy designed to address the inadequacies of care for the underserved must include a major focus upon recruitment and retention of primary care minority physicians. Furthermore, we suggest that the implementation of this strategy will necessitate surmounting the financial

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barriers to the recruitment and retention of these students.

In view of the limited potential for new Federal funding, we propose implementation of this strategy by development of a program designed as a public/private partnership to confront financial barriers through cost control and revenue enhancement. This program would establish UHECs, which would serve as the administrative and financial base for a PCCP for minorities. We have identified possible UHEC objectives, functional components, administrative structure, and financing. Also, we describe UI-IEC interaction with each step of the PCCP and the potential for coordinating currently fragmented resources.

We conclude that the proposed UHECs could serve as the stimulus for a public/private synergism for funding a major effort to address recruitment and retention of minority primary care physicians committed to the urban underserved. Furthermore, with the administrative and financial structure as outlined, UHECs could achieve maximal cost effectiveness through proper coordination and centralization of resources, which are currently fragmented and inadequately targeted. The UHEC health professions recruitment, student counseling,

remedial learning, and financial advisory centers would serve as the foundation for the PCCP—a program designed to provide minority students with stimulation, career development, and financial guidance, plus emotional and financial support from junior high school to an established career as a primary care specialist. Additionally, the UHEC would serve as an invaluable resource to medical schools and urban teaching hospitals in their current struggle to expand primary care ambulatory training at the undergraduate and graduate level. Finally, the UHEC could make a significant contribution to its community's needs for primary care of underserved urban populations through its own clinical activities and by supporting medical manpower and other needs of associated **CHCs**. We maintain that UHECs and their associated PCCP programs would represent an effective mechanism whereby the education of physicians (and the associated administrative efforts of urban medical schools and teaching hospitals) could be targeted toward improving access to care for the underserved.

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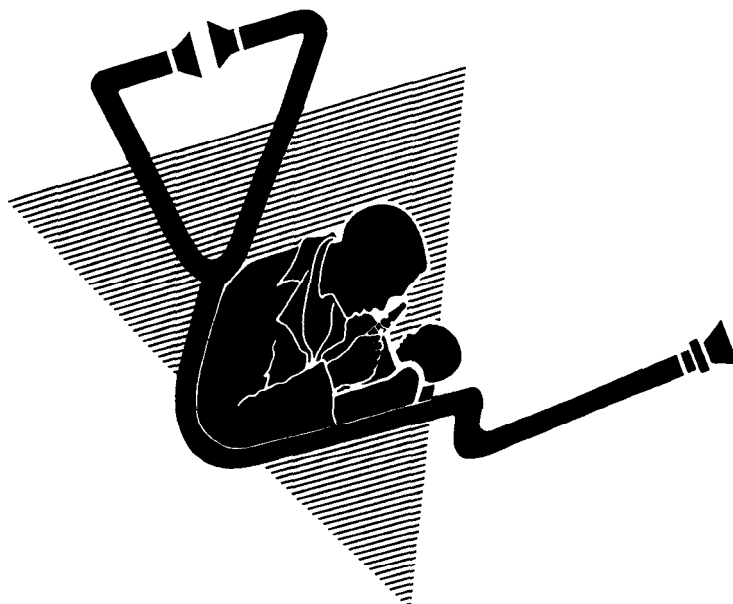
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## **Workshop II: Educational Reform**





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# Conference Report of Workshop II

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## Preamble/Problem Statement

The charge to this workshop was to review past and current educational experiences and propose new ways of making primary care medical education better “fit the territory.”

In response to that charge, Workshop II adopted the following tenets as the basis of its discussion of **educational reforms** to improve access to care for the underserved:

- There should be equitable access to basic health care, including primary care services for all U.S. residents.
- Too many individuals lack access to primary care services.
- There are insufficient supports, including economic, professional development, and personal/family supports, to recruit and retain physicians in practices to serve underserved populations.

- Increased numbers of appropriately trained primary care physicians will enhance the country’s ability to improve access to care.
- The current structure and content of medical education does not facilitate specialty selection and practice location to enhance access to primary care for the underserved, but educational reform alone is not sufficient.
- Existing incentives for medical schools and academic health centers promote the creation of specialists over the creation of primary care physicians.

In this setting, Workshop II strongly believes that access to care can only be improved if:

- Patients’ financial barriers to access are eliminated.
- Primary care services are equitably reimbursed in relationship to all health care services.

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NOTE: For this discussion, “primary care” is that care which has the following characteristics: care of first contact, care which coordinates use of the health care system, care which provides continuity and comprehensiveness, has a **wholistic** approach, and a **wellness** orientation.

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- Coherent health policy is developed to accomplish these priorities within the current national expenditures for health care.

Only if the above are effectively addressed, Workshop II concludes that:

**Educational reform can be undertaken to facilitate the development of increased numbers of appropriately trained primary care physicians functioning in a cohesive system of integrated health care services and thereby improve access to care for the underserved.**

## **Issue #1**

Recruitment and selection of students likely to serve the underserved and also those who will choose primary care careers.

## **Recommendation**

Medical schools should recruit and select students likely to choose primary care careers and provide service to the underserved. Specific recommendations in

this regard have been made by Workshop I.

## **Issue #2**

Alterations in the medical school curriculum to promote education of students in primary care and in underserved areas.

## **Recommendations**

- Medical schools should change the curriculum governance structure and establish a faculty body empowered to define detailed curricular content and then implement a coherent medical student educational program.
- Medical schools should define a community education and service environment that will afford opportunities for appropriate student education.
- Medical schools should explicitly determine what general preparation is needed for all physicians, building upon the General Professional Education of the Physician (GPEP) Report. Experiments that develop a relative

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educational value system for student education should be supported. The National Board of Medical Examiners should be influenced to revise its examinations to reflect this modified content of medical education.

- Attractive opportunities should be developed at all medical schools for students to learn in community settings with interdisciplinary faculties and effective primary care role models.
  - Within 3 years, all medical schools should implement a curriculum that exposes all students to primary care principles and practice, preferably in a longitudinal format.
  - Faculty should be provided with academic, financial, and other rewards for clinical care and teaching in ambulatory and community settings.
  - Interdisciplinary faculties, with joint responsibility for preparing health care teams able to provide comprehensive primary care, should be created. Schools of medicine, public health, nursing, social work, etc., should work together in such endeavors.
- Innovative programs in ambulatory primary care education, jointly sponsored by the primary care disciplines, should be encouraged.
  - The LCME should evaluate medical schools on all of the above parameters.
  - Faculty education and development to meet new challenges in medical student education should be in place in all schools.

### Issue #3

Expansion of opportunities for graduate medical education in primary care disciplines and encouragement of service to the underserved in all graduate medical education programs.

### Recommendations

- **RRCs** should be flexible in accreditation procedures to allow residency programs to experiment with rural/urban tracks, community medicine experiences, etc.

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- **RRCs** and academic societies should place renewed emphasis on explicitly articulating the **content** of residency curricula, i.e., implement the **Davidoff** “relative educational value scale” as a mechanism to determine appropriate content.
  - Residency programs should conduct more teaching in underserved areas.
  - The content of residency curricula should be responsive to the emerging needs of a “**21st century**” or biopsychosocial model of medicine such that clinical decision making, ethics, the doctor/patient relationship, etc., are included.
  - A special national commission should be created to establish national guidelines and ultimate targets for the number and type of residency positions offered and to oversee a process by which academic health centers will reduce the number of nonprimary care training positions.

#### **Issue #4**

Alterations in the practice environment and supports to provide incentives for primary

care practice and service to the underserved.

### **Recommendations**

- Government and other payers should provide equitable reimbursement for primary care services.
- Government and other **funders**, e.g., private foundations, health care industry, should provide financial incentives for primary care in underserved areas via loan repayment programs, specifically through the NHSC and through increased reimbursement differentials for providers in underserved areas.
- Information systems, telecommunication systems, and new technologies should be made available in underserved areas to reduce “medical isolation” and improve the quality of patient care. Medical schools and third-party payors could cooperatively develop such systems.
- Resident and student education should be linked to real-life practice environments via office-based teaching.

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- Medicine should work with other disciplines to form comprehensive health care teams to serve in underserved areas.
  - There should be increased funding for practice-based research in underserved areas via NIH, AHCPR, private foundations, and other sources.

## Issue #5

Incentives for medical schools to fulfill their social mission to provide care for the underserved and to promote primary care career options.

## Recommendations

- Title VII grant funding should be doubled and priority given to innovative programs which involve residents in effective projects to serve underserved communities and which promote effective collaboration among the primary care disciplines and with other disciplines, e.g., public health and nursing. Funding should also build in evaluation of the effectiveness of funding and priority should be given to

programs implemented in new communities, those which are targeted to improve major public health problems, e.g., reduce infant mortality and improve prenatal care, and those which develop minority faculty members.

- New grant programs for research in educational innovations should be funded.
- The NIH and the AHCPR should provide funds for primary care research.
- Financial benefits should be given to collaborative projects between medical schools, schools of public health, and Federally funded health care settings, e.g., NHSC, Indian Health Service (IHS), C/MHCs, using a model similar to that implemented in the Veterans Administration/Medical School Alliance.
- Levels of Medicare educational reimbursement should be differentiated by specialty to promote an appropriate specialty distribution based on an analysis of physician manpower needs carried out by a national commission.
- Medicare education funding should be extended to cover teaching in

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ambulatory settings and consideration should be given to funding preventive medicine residents when linked with primary care education.

- Partnerships between Federal/State/local governments and academic health centers should be formed in order to provide comprehensive primary care addressing major public health issues, e.g., infant mortality and the frail elderly. In such a partnership, the Government would pay for all patient care needs, and the medical school would develop and train health care teams to implement the program. Funding could come **from** the Bureau

of Maternal and Child Health and Resources Development or other appropriate Federal, State, or local agencies.

- A Federal health care policy providing public funding to medical schools in proportion to the number of graduates they produce who enter primary care specialties and/or practice in under-served areas should be instituted.
- Local and State government, foundation, and industry support for primary care and for service to the under-served should be sought.

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# Introduction to the Background Papers for Workshop II

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Aspects of educational reform are addressed by the three background papers. The first paper examines whether medical schools can really change and the nature of the change in terms of social responsibility. The second paper presents an approach to curriculum change, and the third paper explores the incentives and disincentives for achieving a more primary-care-oriented educational program.

***“Altering the Mission of the Academic Health Center: Can Medical Schools Really Change?”*** is the topic of Dr. David S. Greer’s paper. Dr. Greer deals with both the academic and social responsibilities of medical schools to train people who can meet society’s service needs. He suggests that, because there is difficulty in identifying what these needs are and that needs change over time, medical schools should direct their attention to those needs for which there is a broad consensus.

The paper explores current problems and dissatisfaction with the health care system and questions the responsibilities of medical education and academic health centers. A historical overview is presented, which suggests that factors such as development of schools of public health that took over some of the concerns with community health and inconsistent Federal policies and

practices, have diminished academic medicine’s inclination to assume social responsibilities.

Dr. Greer discusses societal expectations of the medical profession for the **1990’s** such as reducing health care costs, and providing more rational, equitable access, and more personalized, humanistic care. He suggests that academic health centers have been responding slowly by increasing the emphasis on primary care education and shifting training to underserved areas. Factors such as differences in professional and societal interests, concern with loss of control associated with moving outside the walls of academia, and perverse financial incentives have limited this response. Dr. Greer identifies additional barriers to increased community-based education such as a lack of cooperation among the primary care specialties, inadequacies of ambulatory settings as teaching sites, costs associated with community-based training, and lack of adequately prepared faculty.

A range of pilot and demonstration programs are proposed as an approach to determining how to eliminate these barriers and to develop good teaching models. Dr. Greer points out the importance of building on the current network of federally supported inner-city and rural health centers

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that are in place across the country. He suggests that linkages between these community and academic health centers would provide benefits to both. Other proposed demonstrations could build on academic ambulatory sites where faculty and residents provide the core practice resource. Dr. Greer also emphasizes the need to include specialty training in the ambulatory settings as more of specialty practice moves outside the hospital.

Dr. Greer indicates that reforms should build on current reimbursement changes, which are beginning to recognize costs of ambulatory-based training. Factors that must be addressed also include current reinforcement of high-technology, specialty orientations.

The paper concludes with the view that educational reform needs to move toward a model that presents “medicine to students as primarily a human service endeavor emerging from social need.” Prerequisites are aggressive public sector action, financial incentives to achieve goals, and a restructuring of the current organization and social structure of medical schools and academic health centers. Specific recommendations are provided including the need for Federal Government, State, and foundation commitments for implementation.

The second workshop paper by Dr. Frank Davidoff, “*Rethinking Graduate Medical Education: Is A Relative Educational Value Scale Possible?*” states that the key to curriculum reform lies in changing the actual content of the curriculum.

Dr. **Davidoff** contends that past reform attempts have failed because they focused on the educational process and not on making basic content changes. He stresses that it is necessary to determine what is worth teaching and then setting priorities accordingly.

The paper points out several difficulties in undertaking the task of curriculum reform. They include:

- Belief by faculties that everyone implicitly knows what is worthwhile and therefore it is not necessary to make it explicit and that each discipline’s arena is the most important;
- View that the focus of curriculum should be on problem solving and clinical reasoning and, therefore, there is no need to focus on specific content;
- Academic freedom;
- Historic precedent;

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- Barriers such as **insufficient** time to address change, dependence on available clinical material, and influence of certifying board exams; and
  - Lack of a methodology to set priorities.

Dr. **Davidoff** argues that the “content of a given curriculum in a given medical school or residency is determined by the vectorial sum of many forces—financial, historical, social, psychological, political, **cultural**—that have little to do with medical education per se.” Thus the valuation of curriculum content can be likened to the valuing of medical services where reimbursement for physician services is now undergoing reform through the **Resource-Based Relative Value Scale (RBRVS)**. The RBRVS is seen as providing an objective, rational, and systematic approach to reimbursement, although it does not take into account factors such as quality and effectiveness.

Dr. **Davidoff** proposes that the concept and the methodology of the RBRVS be adapted to curriculum reform and that a Relative Educational Value Scale (REVS) be developed. He advances a methodology for creating an REVS, which includes development by an independent group representing the various types of training

programs and constituencies such as faculty, residents, administrators, and payers. The resultant product would be a ranked list of curriculum content items, assigned individual weights or “relative educational value.” An important prerequisite for the product would be a definition of the “physician product.”

The details of the REVS described in the paper include a set of criteria for assigning educational value to disease entities. These include: frequency; burden of morbidity, mortality, and cost; complexity; difficulty of carrying out procedures; responsibilities; effectiveness; and resource considerations. While developed centrally, local programs would adapt the REVS to reflect local circumstances. Ongoing review would be required to adjust to changing scientific information and resources.

Dr. **Davidoff** contends that the REVS, by providing objective valuations of educational importance, can provide a rationale for ambulatory-based training. He briefly describes current efforts in Canada using a similar approach. In addition to providing curriculum guidance, the REVS is proposed as a guide for developing content of board certifying exams. Dr. **Davidoff** strongly recommends the need to fund and



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support efforts to explore **REVS** development further.

The third workshop paper, *“Osteopathic Education: Does a Practice-Based Orientation Enhance Primary Care Delivery?”* uses successful experiences in osteopathic education to explore issues in achieving the dual goals of expanding primary care education and placement of physicians in underserved areas. Dr. Neil A. Natkow applies force field analysis to define both the driving and restraining forces (incentives and disincentives) to achieving these two goals.

Dr. Natkow’s analysis identifies six basic points that occur throughout the literature: (1) the need to make primary care a more attractive career; (2) organizing training institutions and programs to provide necessary training and to enhance their attractiveness; (3) recruiting students who are likely to make good primary care physicians; (4) providing experiences that enhance this choice; (5) providing positive experiences in underserved communities;

and (6) making practices in these communities more attractive.

The paper goes on to review relevant literature and studies related to each of these points. Dr. Natkow then focuses on the reasons osteopathic medicine has been so successful in meeting the two stated goals. These include its **primary-care-**oriented curriculum; the provision of general practice role models; lack of tertiary care centers; and required rotating internships. He notes, however, that current changes are negatively affecting osteopathic medicine’s primary care orientation. Ironically, these reflect the acceptance of osteopathic medicine into the allopathic arena-increases in D.O. graduates entering specialties, primarily due to acceptance into allopathic residency programs and the extension of admitting privileges for **D.O.’s** in most acute care hospitals. Finally, reinforcing the other workshop papers, Dr. Natkow stresses the influence of financial incentives on achieving a primary care emphasis.

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# Altering the Mission of the Academic Health Center: Can Medical Schools Really Change?

David S. Greer, M.D., Brown University Program in Medicine

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The primary responsibility of institutions of higher education is academic, i.e., the development and dissemination of knowledge. Society's expectations in this regard are well established, and there is a broad consensus that we in the United States are achieving these goals adequately. Utilizing criteria largely based on merit and **well-**established procedures, we have recruited high-quality students and competent faculties to our higher education institutions. Our educational programs are universally admired. In general, we manage to support adequate research time and resources, and our peer-review systems encourage quality in research. Occasional clouds appear on the academic horizon, such as recent concern over fraud and the commercialization of academic faculties, but overall, the expectations of society are clear in this area. There is general approval of our performance.

Professional schools, particularly health science centers, have, in addition to their academic responsibilities, a social responsibility, i.e., to provide men and women trained for, and sensitive to, society's service needs. Expectations here are often less clear since the extent and shape of the social mandate shifts with changes in social and cultural perspectives. Nevertheless, because professional schools are dependent

on the support of the communities they serve, they should devote considerable time and effort to identifying and pursuing the needs and expectations of society. This is often a challenging and difficult task.

First, professionals may not agree that what the community desires is what it really needs; an even more pervasive disparity, the professionals may not consider what the community needs very interesting. Professional and lay perspectives and priorities are frequently at odds. Second, in a heterogeneous society like ours, no one group speaks for the "community;" in fact, the community may itself be difficult to define.'

Nevertheless, medical educators must face the fact that 60 percent of the 126 medical schools in the United States are public institutions, and the remaining privately sponsored institutions derive a large part of their support from public sources. It has been estimated that public subsidies for patient care, tax deferrals, and grants and contracts provide over half of the resources of academic medical centers in the United **States.**<sup>2</sup> Of particular relevance, full-time faculty derive a substantial portion of their support from Federal research grants, and postgraduate medical education is primarily

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funded by public sources. Medicare support alone has been estimated at \$3 billion in 1988, and the VA pays for approximately 12 percent of all residency positions in the United States? Although Federal support of medical schools per se has been declining in the past two decades, State contributions have risen and clinical income, often derived from tax deferred insurance premiums, has **increased**.<sup>4</sup> Pragmatic as well as moral and philosophical considerations, therefore, make it important for academic health centers and their medical schools to be socially responsive.

Admittedly, these social responsibilities represent more ambiguous and elusive goals than the academic responsibilities. It is not surprising, therefore, that there is less satisfaction among the population at large with our performance in this area.' We are bombarded from all directions by political representatives-national, regional, and local-by advocacy groups-health related, socially oriented, or mixed-and by patients and their representatives. It is impossible to satisfy them all, and we must, therefore, restrict our socially oriented efforts to those issues on which there seems to be a broad consensus. We do so in the hope that we will minimize alienation and maximize social satisfaction, thus keeping support

flowing to our institutions. It is important, however, that we not become so angry and frustrated with the ambiguity of social expectations that we abandon the pursuit. The reaction to such a posture would endanger the very survival of our academic institutions.

## **The American Health Care System**

Certain facts seem inescapable as we survey the record of the American health care system. The United States lags behind many other developed countries in numerous standard measures of a Nation's health, such as infant mortality and life expectancy: in infant mortality, for example, even behind Hong Kong, Singapore, and Ireland,<sup>6</sup> and in longevity behind Canada, among others. The Canadian example is particularly pertinent since changes introduced there some years ago have created a much less expensive system, which may be a model for changes in our **country**.<sup>7</sup> The U.S. system remains by far the most expensive in the world, consuming 11.4 percent of the gross national product.

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Quality of care is another issue of increasing societal concern in the United States. There is ample evidence that the quality of a significant proportion of medical care is substandard: iatrogenesis is high;\* variation among hospitals in fatality rates for commonly performed procedures is substantial; a large proportion of these procedures have been judged inappropriate when reviewed against established criteria by expert consensus panels;<sup>10 11</sup> and there remains, paradoxically, a major problem of underuse and inaccessibility of medical services, as reflected in such indices as inadequate immunization rates and delayed prenatal **care**.<sup>12 13</sup> The disparities in utilization are to a significant extent related to the maldistribution of medical manpower, with rural areas and inner cities still lagging **behind**,<sup>14 15</sup> and to the specialty mix of the profession, with too many specialists and insufficient numbers of **community-oriented generalists**?<sup>16</sup>

Given the inadequacies of our health care system and the growing public dissatisfaction with our performance as a profession, it seems appropriate to ask to what extent is medical education and the academic health center responsible for this dissatisfaction, and what can the academic community do to improve the performance of the profession and the health status of

the population?<sup>17</sup> To adequately address these issues, it is important to examine the historical record; ours is not a stable system, and it is necessary to have more than one point on the curve to determine its trajectory and understand the vectors.

## Flexner

The history of medical education is customarily and conveniently divided into the pre- and **post-Flexner** eras and, indeed, medical education has retained a remarkably stable “Flexnerian” configuration for 80 **years**.<sup>18 19</sup> This temporal classification has often led to the inference of a causal role for Flexner, which is largely erroneous and unfortunate in that it has permitted the medical establishment to blame the messenger for the inadequacies that followed Flexner. Effective publicist that he was, Flexner accelerated change, but his recommendations largely reflected trends of the times and, where they did not, they were **ignored**.<sup>20</sup>

Leading American medical educators had become enamored with the biologically based medical education of the German medical schools prior to the Flexner **report**,<sup>21</sup> and the medical profession at large was seeking ways to reduce the competitive

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output of physicians from the large number of medical schools in the United States.<sup>22</sup> Real university integration, which Flexner thought would bring medical education into influential contact with the social sciences and humanities as well as the natural sciences, has never been achieved in this country; medical schools are primarily separate entities bound to universities by a common name and president. The social role of medical education, mentioned but not emphasized by Flexner because more urgent issues of quality were pressing, was made even more explicit in subsequent statements by his principal sponsor, the Carnegie Foundation for the Advancement of Teaching, that regarded the American university as a “public service corporation,” but the social perspective has largely been ignored by the medical education **establishment**.<sup>23 24</sup> Finally, the overemphasis on the biomedical sciences for which Flexner is often blamed reflected burgeoning society confidence in the potentially unlimited potential of science to solve human problems, a societal attitude that has recently waned but remains strong, as is evidenced by the sanctity of the National Institutes of Health budgets.

One need only quote Flexner to settle the issue of his responsibility for the narrow

biomedical focus of medical education in the 20th century:

So far we have spoken explicitly of the fundamental sciences only. They furnish, indeed, the essential instrumental basis of medical education. But the instrumental minimum can hardly serve as the permanent professional minimum. It is even instrumentally inadequate. The practitioner deals with facts of two categories. Chemistry, physics, biology enable him to apprehend one set; he needs a different **apperceptive** and appreciative apparatus to deal with the other, more subtle elements. Specific preparation in this direction is much more difficult; one must rely, for the requisite insight and sympathy, on a varied and enlarging cultural experience. Such enlargement of the physician's horizon is otherwise important, for scientific progress has greatly modified his ethical responsibility . . . The physician's function is **fast** becoming social and preventive, rather than individual and curative. Upon him society relies to ascertain, and through measures essentially educational, to enforce the conditions that prevent disease and make positively for physical and **moral** well-being. It goes without saying that this type of doctor is first of all an educated **man**.<sup>25</sup>

A cogent statement of the need in **1990** as well as in **1910**!

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## Public Health and Medicine

The American medical profession, committed to an entrepreneurial, fee-for-service mode of practice, has never been comfortable with the concept of public responsibility, nor has it been organized to engage effectively in communal **endeavor**.<sup>26</sup> In 1920, Edward Amory Winslow, Professor of Public Health at Yale, defined public health as “the science and art of preventing disease, prolonging life, and promoting physical health and efficiency through organized community efforts for the sanitation of the environment, the control of community infections, the education of the individuals in principals of personal hygiene, the organization of medical and nursing service for the early diagnosis and preventive treatment of disease, and the development of the social machinery which will ensure to every individual in the community a standard of living adequate for the maintenance of **health**.”<sup>27</sup> American physicians, earning their livings treating illness among the financially capable of the population, have inevitably found it difficult to generate enthusiasm for the public mission enunciated by Professor Winslow. Organized medicine has frequently opposed such activities as radical, socialist, un-American, or merely coddling the unworthy who are not capable or willing to

care for **themselves**.<sup>28</sup> Similarly, medical schools have never found it financially or organizationally attractive to engage in such public health activities. Therefore, it is not surprising that those so inclined ultimately separated themselves from medical schools and developed their own educational institutions.

The historical record is clear on this subject. The earliest conflict between public health and private practice concerned the role of public dispensaries in treating the sick poor. During this period (late 18th through the 19th centuries) medical educators supported the dispensaries because they used them to teach medical students, gain experience in diagnosis, and advance their careers. The dispensaries, however, could not survive the vehement opposition of the profession at large, who alleged abuse of dispensaries by people who could pay for care. Ultimately, these socially responsive sites of ambulatory education, the return of which we presently seek, were sacrificed to the educational reforms of the early 20th century, when the number of medical schools declined and the pool of free labor for dispensaries dried **up**,<sup>29</sup> much to the relief of the medical profession at large.

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Health departments were developed after the Civil War to combat epidemic diseases like cholera and yellow fever, initially with the support of physicians. But as they extended their activities beyond sanitation to the diagnosis and treatment of disease, they encountered the opposition of the medical profession. For example, objecting that tuberculosis was not contagious, practitioners in the late 19th century opposed compulsory reporting as an invasion of their relationships with patients and of patients' rights to confidentiality. The president of the New York County Medical Society told its membership in 1897 that by requiring notification and offering free treatment, the health department was "usurping the duties, rights and privileges of the medical **profession**."<sup>30 31</sup> Repeatedly, the defense of the private interests of physicians set limits to the development of effective public health action; progressive alienation of public health advocates from the mainstream of medicine was inevitable. Public health became a "poor cousin" of the medical profession.

It was in such an environment, on March 4, 1912, that George C. Whipple, professor of sanitary engineering at Harvard met with President Lowell to discuss the education of public health **officers**. The Harvard

Medical School had established a Department of Preventive Medicine and Hygiene in 1909 under Milton J. Rosenau who, perceiving little interest on the part of the Medical School in supporting a major program in public health, took the lead in the development of an autonomous institution at Harvard. The reaction of the Faculty Council of the Medical School, in addition to insinuations of lower academic standards, was one of relief and to make plain "the Medical School, as such, will not incur obligations in regard to instruction or finances of the School (of Public **Health**)."<sup>32</sup>

In collaboration with the Massachusetts Institute of Technology, Harvard developed, separate from the Medical School, the first certificate-granting, formal program to train public health officers. At the same time and in a comparable environment, The Johns Hopkins University organized its separate School of Hygiene and Public Health. The Rockefeller Foundation supported a series of these independent schools for public health research and the professional training of public health **officers**.<sup>33</sup>

The separation of community health from medical education was thereby confirmed in the United States, a tragic development from the viewpoint of those espousing

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socially responsive medical education and research. A new, competitive educational establishment was created and medical schools were relieved of the burden of social responsibility beyond individual patient care and related education and research.” Recent efforts to develop primary care and community medicine programs in medical schools notwithstanding, the development of separate schools of public health in this country represented a tragic loss for academic medicine, from which we are still attempting to recover.

## **The Counterproductive Role of the Federal Government**

No account of the factors responsible for the deficient social commitment of medical education would be complete without inclusion of the frequently counterproductive influence of the Federal Government. Putting aside the perverse influence of the financial incentives favoring biomedically oriented specialization fostered by the reimbursement practices of Medicare, direct support of socially desirable educational objectives by the Government has been tentative, ambiguous, and often internally contradictory. The lion’s share of grant money for health research still goes to

laboratory-based biomedical research; the negative effect of this policy on **institutional** and faculty interests, from the standpoint of community advocates, has been much commented upon without visible result, other than comparatively meagre support for primary care education in recent years. In 1988, the NIH awarded \$4.7 billion for extramural biomedical research and \$63.6 million for primary care training (family medicine, general internal medicine, general pediatrics, physician assistant program, and general **dentistry**).<sup>35</sup> Government research awards represent a multibillion dollar message to educators and academic administrators that the game has not changed.”

The Federal Government encourages movement of medical education to ambulatory settings while it persists in channeling funding through hospitals, with numerous encumbrances on how the money can be spent in ambulatory sites and the kinds of sites that are eligible. It pays indirect medical education costs for services rendered in hospitals but not in clinics. It expresses concern about medical priorities, ethics, and sociological considerations while funding research and educational ventures in these areas inadequately. It skews academic priorities in reactionary directions with funding favoring the hospital-based,



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technologically oriented specialists on medical faculties while decrying the reluctance of academic health centers to expand primary care programs in ambulatory settings.”

In short, Government appears intimidated by the power of the professional establishment, which is reflected in Government action that speaks louder than its rhetoric. Government action is constrained by deference to the most conservative elements of the academic community rather than the broader population it purports to serve. The current medical delivery and educational systems are shaped by the needs of the providers rather than the consumers, and Government, particularly the Federal Government, has **shown** little courage or initiative in redressing the balance. The tremendous financial and regulatory leverage, which the Federal Government represents, makes it certain that little will change in the direction of social need without more aggressive action on its part.

## Some Examples of Societal Need and Desirable Directions

Given its history, the realities of the power structure, the heterogeneity of its constituency, and the mixed signals emanating from various sources, where does this leave the academic medical community in the **1990's**? On what should it focus its efforts to change in socially desirable directions and, specifically, what seems feasible as well as desirable given the power of the establishment? In short, what does “society” expect of the medical profession throughout the **1990's**, and how can the academic health center contribute to the realization of those expectations? Some broad themes can be identified:

- Reduced health care costs. Among the problems identified are perceived excessive use of inpatient facilities and injudicious application of expensive technology. Society wants better identification of the benefits they are buying for the buck, which implies the need for more and improved outcome research?
- More rational and equitable access to medical care. The inadequacies identified range from long waits for

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appointments, despite the widely heralded surplus of physicians, to the financial barriers to care for the almost 40 million uninsured in our country and for those who live in inner-city or rural areas.<sup>5</sup>

- More personalized, humanistic care; an approach to the patient as a human being rather than a collection of organs; some continuity in the doctor-patient relationship; and better integration of our highly specialized system. One hears a theme of support for a return to generalism underlying these aspirations but not at the expense of specialized expertise when it is **needed**.<sup>38</sup>

The academic community has not totally ignored the signals from outside the **profession**.<sup>19</sup> Among the initiatives designed to respond to social expectations in recent decades have been:

- Increased attention to primary care education.
- Efforts to shift medical education from the hospital to ambulatory settings, sometimes at sites that address the needs of underserved populations.

- More time in the curriculum devoted to “population medicine,” as distinguished from individual medicine, sometimes called prevention or health maintenance versus curative interventionist medicine.

One must admit, however, that the pace of change in the academic health science center has not kept up with the growing social **demand**.<sup>4</sup> Historical and external influences conceded, unresponsiveness on the part of the academic community has contributed greatly to the problem. The resulting pent-up frustration now threatens to boil over into Draconian public action.

Why hasn't the academic sector responded adequately? First, its professional interests are different from society's interests. Like medieval monks debating how many angels will fit on the head of a pin, in the splendid isolation of their academic medical centers the professionals have become preoccupied with intramurally developed questions, which are quite different from the concerns of the excluded masses outside their gleaming aluminum and glass fortresses. The outsiders don't understand what the academics are doing, and the academics are frequently unconcerned with what the “masses” are thinking. Second, academics have become too content in the academic health center. Their modern

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monasteries are comfortable, contained, supportive institutions dedicated to the care and feeding of the professional establishment. Reaching out, learning to deal with different organizational and human problems, and becoming involved in the complexities of the larger society threaten loss of control and destabilization. They feel secure in their tightly contained hospitals where tasks are neatly divided among well-delineated specialties, with the turbulence and untidiness of societal problems safely excluded from their daily concerns. Finally, the financial incentives are perverse. Although the blame for this falls primarily on agencies outside the academic community, academic medicine has benefited from the perversities. There is more money to be made in inpatient specialty practice than in community work. Educational philosophy falls by the wayside in the struggle for financial viability.

The seeds of self-destruction have been planted, however, and those who perceive the danger must act lest others with different motives fill the gap. There are many others who are bidding to do so: unorthodox practitioners, paramedical professionals, healers, and technicians of a wide variety of persuasions have experienced growing social acceptance in recent years and have progressively

increased their efforts to move the medical professional aside to make room for their more limited and frequently less scientific approaches to health care.

## **Academic Initiatives**

Conceding the need for a return to generalism and community, where should academics focus? Two obvious approaches are increased commitment to primary health care education and movement of the educational and research enterprises beyond the medical center to community-based sites. An examination of these initiatives can be instructive by revealing the obstacles and problems that confront attempts to convert medical education to a more socially responsive mode. Let us direct our attention first to the development of primary care and ask the questions: What happened to the primary care movement, and what can be done about it?

It is now more than 20 years since the publication of three major national reports served as the impetus for the development of family practice as an academic discipline. There is general agreement that a socially responsible medical education system would produce a majority of primary care generalists and a minority of

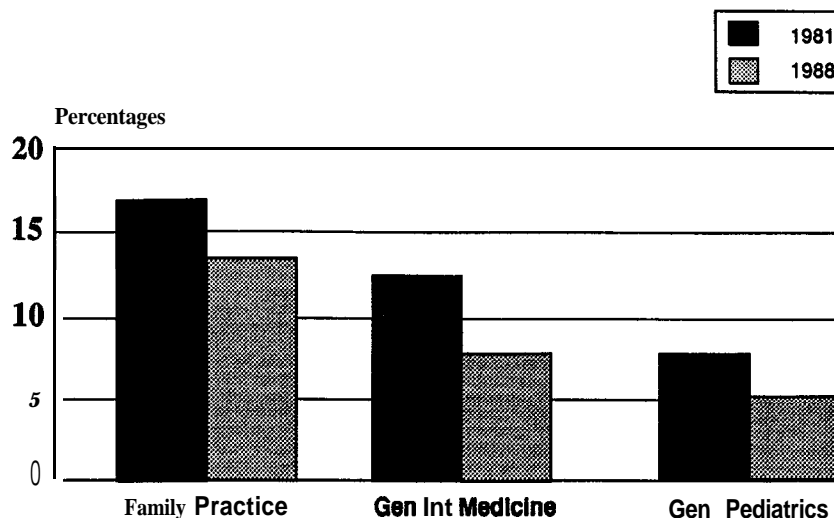
specialists, possibly two-thirds to three-quarters of the former. Despite this consensus, the American system still produces a substantial majority of specialists, and the trend is unfavorable; the number of medical school graduates entering primary care is declining (figure 1). Current projections by the Federal Government estimate that a minority of the Nation's physicians will be in primary care during the 1990's, despite the family practice movement and the largely reactive development of general internal medicine and general **pediatrics**.<sup>39</sup>

Advocates of primary care generalism in the academic medical center have faced an uphill battle for a variety of reasons. Nevertheless, the various primary care disciplines have seldom been helpful to each other; the relationship among the three major primary care specialties has been more competitive than cooperative. Since no consistent superiority of one field over another has been convincingly demonstrated, nor has the question of which specialty provides the most cost-effective care been settled, some have wondered why they do not get **together**.<sup>40 41 42 43</sup> There are enough obstacles to their goals already out there; they need not spawn their own.

Figure 1  
Specialty Choice of Graduates for Primary Care

Medical school graduates seeking specialty certification in one of the primary care specialties has dropped during the 1980's

Source: AAMC Graduation Questionnaire. Progress Notes. Association of American Medical Colleges 1989; XIII, No. 1.



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Since individual specialty efforts appear to have stalled, the issue of increased cooperation and collaboration among the individual primary care specialties must be faced. As the health care system moves toward increased support of primary care, as reflected by resource-based relative value reimbursement systems on the positive side and the financial crunch hospitals are experiencing on the negative side, the profession will either have to abandon its parochial view and move decisively in unison to take the lead in meeting social demand, or it will be manipulated and coerced **from** outside. Although the term remains toxic in many medical quarters, the lay population and its representatives see no conceptual reason why a single generic primary care physician could not evolve in this country, or why medical education leadership is not in the forefront of such a development. The road to rationality may be hazardous, but many of the land mines have been put in place by the professionals themselves: an elitist, specialist-oriented professional culture; the service need for specialty graduate trainees in teaching hospitals; the territorial imperatives of specialty boards; and the reluctance of academics to venture beyond the protective confines of their monastic medical centers. The time for cooperative professional action is now: dialogue, experimentation, pilot

projects, joint faculty development, shared courses and clerkships, and collaborative advocacy are urgently needed.

Shifting the balance of the medical educational enterprise toward ambulatory settings and community-orientation is no less daunting a task, but is equally overdue.” Physicians trained in hospitals will tend to stay in hospitals, where their expensive, high-technology, specialty practices can flourish. Students unexposed to and therefore ignorant of the interesting, challenging human and social problems in their communities cannot be expected to choose careers devoted to community service. Education in tertiary care centers exposes students to a narrow spectrum of diseases, snapshots of the evolution of illness, no perspective on prevention, little psychosocial insight, and the most expensive mode of practice attainable. The current educational system is designed for the benefit of the providers not the consumers, be the latter students or patients.

The difficulties associated with shifting the balance of medical education to ambulatory settings are formidable, no doubt. To start, hospital-connected clinics will not be adequate, either qualitatively or quantitatively: They have insufficient capacity and skewed, narrow distributions of patients and

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medical problems, which limits them educationally. But what are the most appropriate and cost-effective sites in our heterogeneous medical care systems? Large groups? HMO's? Solo practitioners? Publically supported clinics? How would education in such sites be organized and reimbursed? Research initiatives addressing these questions are urgently needed.

The cost of ambulatory education, as reported in the literature, varies widely, partly due to differing accounting practices.<sup>45 46 47 48</sup> Who would pay the capital **costs** of additional consulting and examining rooms, conference rooms, and classrooms? How would we assure quality in dispersed, heterogeneous settings? Where would we find faculty prepared to teach a generalist, community-oriented curriculum among our sheltered specialists in the medical center? Should we recruit (and pay) community practitioners, and, if so, how would these practitioners relate to our elitist faculty? Properly evaluated pilot projects could answer these questions and should have a high priority on the national research agenda.

It can be done, and it has been done in some isolated **instances**.<sup>49 50</sup> The way to start is by developing demonstration projects that address both community and

academic need, and provide patient care where it is needed while simultaneously offering educational and research opportunities. Medical schools and their teaching hospitals should take the lead; they have the advantage of utilizing existing relationships between educators, accrediting bodies, and payers to experiment with new models. The establishment of "outreach" clinics to increase their "market share" has become attractive to teaching hospitals. Entree to populations for epidemiologic and health service research would be a motivating force for the primary care faculty. American populations are already sold on the notion that academically sponsored medical care is of high quality and, particularly where resources are deficient, would welcome such initiatives, in rural and inner-city areas particularly. Many established practices also have welcomed academic involvement, for the intellectual stimulation and the enhanced image it provides.

None of the problems presented by ambulatory site education are unique or unprecedented. The development of teaching and research programs in established community hospitals involves similar adjustments in service and academic programs, but both sectors appear to be accommodating willingly judging from the

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increased number of **community-hospital-**based medical schools in the past two decades. Additional recent examples are the establishment of outreach community hospital programs in medical schools with their own university hospitals. The establishment of comparable relationships with ambulatory centers is only a small step beyond these ventures and involves issues of curriculum, staffing, quality assurance, and cost that are not qualitatively different from those raised by community hospital affiliation.

It is important to note that, in addition to academic motivation, market share considerations have piqued the interest of tertiary care centers in establishing referral relationships with primary care clinics; in many instances, academic centers have developed outreach clinics themselves to assure those referrals. The cloning imperative of teaching centers has produced large numbers of competitive specialists in surrounding communities, and, in some instances, referrals to the mecca are drying up. The creation of primary care clinics de novo in areas of need best captures populations at all levels of care; unfortunately, most areas of need have insufficient economic potential to support such clinics. Liaison with established practices, therefore, often becomes a more feasible alternative.

A neglected opportunity does exist. There is a great need for health professionals in the network of federally supported **inner-city** and rural health centers spread across the nation, accented most recently by the nationwide shortage of nurses and the phasing out of the NHSC. The establishment of a liaison between these clinics and academic health centers, similar to what was done several decades ago with the Veterans Administration hospitals, appears to present many opportunities for both sides. The neighborhood health centers are community-oriented: They assume responsibility for elevating the health status of the surrounding population rather than exclusively addressing the medical problems of the individuals who make their way to the clinic. Practical lessons in health maintenance and disease prevention, clinical epidemiology, and cross-cultural communication are readily available in such settings, which makes it possible to address these currently neglected subjects in medical education.

Ideally, a group practice or a “firm” system would be established in academic ambulatory **sites**.<sup>51</sup> Medical school faculty would constitute the core of this group practice—a mix of the current primary care specialties would most comprehensively cover the needs of the patient population,

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and residents would join the practice as junior associates, sharing all duties and obligations with senior associates and supervised by the latter. These duties would include reviewing the health status indicators of the community population and planning interventions for improvement, managing a panel of patients in outpatient, inpatient, and long-term care settings, sharing on-call and coverage responsibilities, serving on quality assurance and cost surveillance committees, participating in practice management, etc. Medical students, both pre-clinical and clinical, could be attached to the firms and perform duties consistent with their level of training. Pre-clinical students would receive early exposure to professional responsibility for community health, principles of epidemiology, and the gratifications of extended longitudinal care where doctor and patient get to know each other as human beings in a social context, rather than as clinical specimens.

Medicine would thus be learned in a more normative practice environment and experience would be gained in setting priorities, allocating time, establishing cost-effective approaches to patient management, and accommodating personal lifestyles. The community-oriented functions would include identifying

parameters of health maintenance and disease prevention, establishing methods of measuring those parameters, developing cross-cultural communication with community residents, collaboration with non-M.D. health professionals and evaluating cost and outcome. Compare this rich educational menu **with** the paltry fare being served up by our current system, and you begin to get some insight on how wide of the mark medical education is in the opinion of its critics and what meagre regard academic medicine has had for its social responsibilities.

The focus of this discussion has been on primary care education in ambulatory settings because more adequate primary care is our greatest national need, but specialty education must also shift toward greater outpatient orientation.”<sup>52</sup> Specialists are increasingly doing their work outside of hospitals; not only preoperative work-ups and postoperative care, but progressively more complex procedures are being done on an outpatient basis. Academic ambulatory care clinics should include facilities for specialty practice, which would provide **onsite** consultation services for the primary care staff as well as education for the subspecialists. This would facilitate the training of generalists as triage agents, so-called “gatekeepers,” a function they will



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be increasingly called on to perform in the future. The judicious use of consultants and expensive technology should be an integral part of every primary care educational program.

What about the costs? The issues here are complex, varying with settings, educational methods and accounting practices, and current reimbursement systems are heavily biased toward inpatient education. Recent reviews of this problem have been published in the *New England Journal of Medicine*.<sup>53 54 55</sup> Another glimpse into the financial future is available in the form of a report from the IOM entitled “Strategies for Supporting Graduate Medical Education for Primary Care Physicians in Ambulatory Settings.”<sup>56</sup> Appropriate changes in reimbursement are being planned by Federal and third-party payers who recognize not only the social need for more comprehensively trained physicians but also the likelihood that physicians less oriented to inpatient care will, in the long run, be more cost effective. Hopefully, these will not be crippled by contradictory regulations, as they have often been in the past.

Federal and third-party payer trends are favorable. Before 1986, the time residents spent in outpatient settings and the cost of administering outpatient education were

acknowledged by Medicare only if the setting was part of the hospital. The **OBRAs** of 1985 and 1986 have attempted to correct this inadequacy by allowing direct costs in nonhospital connected sites and the inclusion of residents’ outpatient time in the calculation of indirect medical education costs. The HCFA appears to be resistant to these Congressional initiatives, and regulations have tended to obstruct and obfuscate. But we are painfully moving in favorable directions.

## History, Power, and Momentum

It has taken almost a century for the American medical profession and medical education to evolve to its present state. Profound historical forces have brought the establishment to its current configuration, and equally powerful forces will be required to promote change. We must go beyond rhetoric, of which we have had a **surfeit**,<sup>57 58 59 60 61</sup> and beyond the ritual of mere curriculum reform, which has amply demonstrated its impotence. Academic medical centers constitute a deeply rooted bureaucracy firmly committed to and amply rewarded by the status quo. Power relationships, territoriality, and material self-interest foster resistance that cannot be effectively countered by superficial,

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cosmetic efforts like yet another curriculum reform. Effective measures are likely to be those directed at governance, financial **support**, and the social organization of the medical school.

It is important to recognize that medical schools do not consist of homogeneous constituencies. Much of their immobility as institutions is attributable to their organization into fiefdoms--departments, disciplines, basic scientists, specialized clinicians, and clinical scientists among others, which represent different interests and are not hierarchically controlled. The corporate bureaucracy of the medical school has become an ever-expanding institution, requiring a flow of resources that exceed the income that is available from education itself; thus, under present circumstances, it is forced to maintain itself indirectly on resources that are allocated to support the goals either of research or of the technology of specialized tertiary care, much of which is generated by the faculty rather than the institution. Educational values become subordinate to the requisites of the organizational structure and financial needs of the medical school and, therefore, to policy that is determined by interest groups, both internal and external, rather than educators per se. "There's not a single faculty member who is hired to teach

medical students ... nobody is being paid to **teach**."<sup>63</sup>

The current pattern of corporatization and privatization of medical care delivery by the **profession**,<sup>64</sup> combined with the withdrawal of Government financial support for medical education, has caused a shift toward managerial cost-control policies in medical schools. As a result, high-technology specialty orientations, already well entrenched, have been reinforced, crowding out **community-oriented** primary care perspectives. To effect change, one must "address the structural problems of organization, the sources of authority and allocation of resources, the power centers of **decisionmaking**."<sup>62</sup>

Conflicts between values, social objectives, power, and money in the medical center become evident in many ways. Federal support for the educational function of medical schools diminishes progressively while support for the alliance of academic research and specialty medicine increases, as reflected by the NIH budget and health service reimbursement practices. Harvard, with much fanfare, announces its "New Pathway" educational program while its affiliate, the Massachusetts General, accepts \$70 million from Hoechst, A.G., to create a

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department of molecular biology. States encourage and subsidize family practice education while urging their medical schools to build up their biomedical science base to attract biomedical industry. One need only consider the magnitude of these conflicting forces to understand why the curriculum tinkers have had so little impact on medical education over the decades.

### **Some Modest Proposals-and Some Not So Modest**

In general, our goal should be to establish a predominant population perspective in medical education, particularly undergraduate medical education. If indeed the objective of undergraduate medical education is the general professional preparation of the **physician**,<sup>61</sup> a valid case can be made that a broad perspective should constitute the foundation on which specifics and details can be added as the student proceeds. The skills and knowledge required for competent practice are best taught in the postgraduate years, although even in that phase more attention should be given to the social role of the professional. In essence, the need is for a **180-degree** turn in educational perspective from the

current model, which focuses initially on the scientific base of medicine and regards the sociological and humanistic elements as secondary, to a model that presents medicine to students as primarily a human service endeavor emerging from social need. Students must be made to realize early in their education that medicine, despite its vigorous and laudatory attempts to expand its scientific foundation, is not a science; neither its orientation nor its methods, much less its goals, are those of the scientist. Medicine is a social service, a response to perceived communal as well as individual need, and should be so represented in medical education.

Pellegrino has succinctly distinguished between these two approaches to medical education, one of which can be called the reductionist approach emphasizing biomedical knowledge and technology, and the other the social ecology or humanistic approach. Of the first, he says:

Medicine is a scientific endeavor to be taught in the university by full-time academicians who are specialists and in university-controlled hospitals. In this view it is reasonable to select students primarily for scientific and quantitative capability. Teaching must inculcate the scientific method of problem solving. The

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physician is to be trained as an applied biological scientist . . .<sup>65</sup>

The social ecology orientation focused on medicine in relation to the needs of those it serves. In Pellegrino's words:

Community and patient needs have **been** advanced as the ordering principles for medical education. In this view, medicine is designed primarily to alleviate the major health needs of a country, not just those defined as "medical." Medicine should, therefore, be shaped by epidemiology **ecology**, matched to demographic, socioeconomic, and cultural sources of ill **health**.<sup>66</sup>

Osler said it even better. Fearing the consequences of conversion of clinical faculty to full-time status, he wrote to the president of The Johns Hopkins University:

Cabined, **cribbed**, confined within the four walls of a hospital, practicing the fugitive and cloistered virtues of a clinical monk, how shall he, **forsooth**, train men for a race, the dust and heat of which he **knows** nothing and-this is a **possibility!**—cares less? . . . The danger would be the evolution throughout the country of a set of clinical prigs, the boundary of whose **horizon** would be the laboratory, **and** whose only human interest was research, forgetful of the wider claims of the **clinical** professor as a trainer of the young,

a leader in the multiform activities of the profession, an interpreter of sciences to his generation, and a **counsellor** in public and private of the people in whose interest after all the school **exists**.<sup>66</sup>

A prescient statement of the condition of the academic medical center in the late 20th century. <sup>67</sup>

Several basic conditions must be established before proceeding with specific initiatives. First, we need aggressive public sector action based on truly representative principals, the greatest good for the greatest number of Americans; resisting special interest groups will be difficult for public officials but is essential. Second, we must make effective use of that most powerful of human motivators, money. Third, we must strike at the heart of the problem, the organization and social structure of the medical school/academic health center. **If we** do not accept the challenge on this level, we will fail.

The unequivocal commitment of the Federal Government is essential but will not be sufficient. Coalitions must be formed with State governments, who finance so much of the educational system, and with private foundations, who can bring the prestige of the private sector to the initiatives in a country that, unfortunately, has lost

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confidence in its public sector representatives. A national conference convened by the Federal executive and involving all of the States and the major, interested foundations would be a good way to begin. Such a conference might start with an attempt to develop a national consensus on the current problems and agreement on educational goals more responsive to the needs of society. It should emphasize the need to address the root causes of the problems we face, the power structure and social organization of medical schools and academic health centers. A variety of pressure points might then be identified, including the following:

- Reorganization of publicly supported academic medical centers, including changes in the composition of governing boards more representative of community constituencies. Clarification and integration of the educational, research, and service mission of these centers is urgently needed. For example, adequate response to social demands cannot be secured by separate approaches to the medical school, its teaching hospitals and participating community health care facilities; comprehensive oversight is necessary to coordinate academic and service

functions as the enterprise expands into the **community**.<sup>67</sup>

- Modification of the mission of a majority of publically sponsored academic health centers toward activities directed at the protection and restoration of the health of the population. In practical terms, this would require that each academic medical center's activities be guided by a fundamental and continuing concern for studying, delineating, and addressing the health problems of a designated **area**.<sup>68</sup> In this regard, potential social utility might be added to the criteria for research awards, including many categories of NIH awards.
- Direct Federal financial support of graduate medical education in place of the current system of support through hospitals, cloaked as payment for Medicare patient services. This could be budget neutral but would free community-oriented educators from the constraints of hospital needs and should, therefore, accelerate the development of community-based postgraduate education; medical students would follow the residents into these sites.

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- Reduction of support for undergraduate and graduate medical education directed to single primary care disciplines; redirection of these funds to joint ventures involving more than one primary care discipline.
  - Reallocation of research funds **from** biomedical to educational research, in particular to encourage further development of problem-based, community-oriented undergraduate medical education. Experiments like those at the University of New Mexico<sup>70</sup> and in several foreign **countries**<sup>70</sup> have shown promising results but have been inadequately supported and poorly disseminated. Further experimentation with innovative educational models necessary to foster their maturation, and external support of the educationally oriented faculty who are engaged in such ventures would empower them in their institutions. Demonstration projects involving and empowering community sites and community-based physicians should be particularly encouraged. The **W.K. Kellogg** Foundation has embarked upon such a venture recently.”
  - Incentives to experiment with medical school admissions, particularly applicants from rural areas and those with nontraditional backgrounds, e.g., social science and humanities majors. In view of the recent substantial decline in conventional medical school applicants, this may be a good time to experiment with the admission of humanists with adequate but not necessarily superior skills in the quantitative and life sciences, such as those presently attracted by the ministry or social work. The medical profession might benefit from the addition of such “bleeding hearts,” who might be more inclined to the personalized, ongoing human relationships of general practice and community location. There is some evidence, moreover, that students from rural backgrounds, albeit with preparation somewhat limited by their often less sophisticated educational backgrounds, can be made into competent physicians and are more likely to return to smaller communities to practice as **generalists**.<sup>72 73</sup>
  - Initiatives to encourage collaboration between schools of medicine and public health. In particular, the new primary care disciplines, family medicine and general internal medicine, could benefit from association with methodologists and population-oriented faculty in
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schools of public health since the primary care faculty have experienced difficulty in establishing their research roles in the academic medical center. The faculty of schools of public health would also benefit by being drawn closer to the mainstream of academic medicine where they could occupy more influential roles. In some instances, merger of schools of public health and medical schools might be advisable to eliminate costly duplication of effort and enhance the social utility of each.

The above recommendations are intended to be illustrative and provocative, not all-inclusive. They obviously would stir up much controversy but that, in itself, may be desirable. Destabilization of the academic community may be necessary to effect substantive change, although it also entails risks. Powerful initiatives are necessary but must be carefully considered and planned by a broad constituency, such as the coalition of Federal, State, and private agencies I have suggested. As the historical record shows, power, albeit judiciously applied, will be required to move the deeply entrenched academic medical establishment.

## Summary and Conclusions

There is a growing consensus in the United States that the health care system has not been sufficiently socially responsive. Academic medicine must accept some responsibility for the current state of affairs since it provides the personnel and, in many ways, establishes the priorities of the health care system; almost all of the leaders of the profession, public and private, are products of American medical education.

The current system, with its strengths as well as its weaknesses, has evolved over a period of almost 100 years. It is the product of strong historical forces, and it is entrenched in organizational structures representing firmly held ideologies, power relationships, and reward systems. Efforts to change must begin with an appreciation of the depth of the problem and the mobilization of power and authority. Friction is inevitable. The remaining topics for discussion are whether leadership can be mobilized that can withstand the turbulence that effective action will precipitate; how to organize the effort; and, specifically, where to apply the necessary pressure.

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# Rethinking Graduate Medical Education: Is a Relative Educational Value Scale Possible?

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Careless use of the words “problem” and “solution” can betray us into habits of thought that are not merely inadequate but false. It leads us to consider all vital activities in terms of a particular kind of problem, namely the hind we associate with elementary mathematics and detective fiction ....

Medicine is a good example. We are inclined to think of health in terms of disease and cure .... But the physician is not solving a cross-word: he is performing a delicate, adventurous, and experimental creative act, of which the patient's body is the material and to which the creative co-operation of the patient's will is necessary. He is not rediscovering a state of health, temporarily obscured; he is remaking it, or rather, helping it to remake itself.

Dorothy L Sayers, “The Mind of the Maker”

## Introduction: The Power of Knowledge

Medical knowledge lies at the center of medical education. Curiously, however, medical knowledge-the content of the medical curriculum-is seen as peripheral to medical education reform. Indeed, the failure of medical educational reform is sometimes ascribed to well-meaning but

ineffectual “curriculum tinkering.” Real reform, it is argued, will come about only when educators have the courage to confront the “true” sources of power (hence, resistance to change), i.e., money, political influence, faith in certification exams, and the like.

But knowledge is power. I argue that the real key to curriculum reform lies in curriculum content, and that blaming the failure of medical education reform on “curriculum tinkering” is blaming the victim. I argue that the real reason curriculum reform has failed to move medical education is because it tinkered with the wrong thing. I argue that curriculum reform has been obsessed with process rather than content and has caved in to the view that content doesn't matter; only problem-solving skills do. And, finally, I argue that this obsession with process has provided a screen for faculty inaction and unwillingness to face the arduous but essential task of setting priorities for the content of medical education.

Professionals of all kinds learn to solve complex, subtle, and sophisticated problems, according to Schon's “reflection-in-action.” Physicians are, therefore, distinguished from lawyers, architects, agronomists, or **auto-**



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mobile mechanics not by how they solve tough, unfamiliar problems on which the well-being, the fortunes, even the lives of their clients depend, but primarily what they know-the content of their knowledge.

### **Curriculum Reform: The Labor of Sisyphus**

Curriculum reform is as old as medical education. The medical curriculum has, of course, changed over the years, because medical science, clinical medicine, and the society in which medicine is practiced have all changed. Reforms in undergraduate medical education over the past few decades have ranged from minimal to radical, e.g., the Western Reserve, **McMaster**, and New Mexico experiments.\* <sup>3</sup> Curriculum reform in graduate medical education has been less visible (although at least one medical school has begun an experiment in which the fourth year of medical school and the first year of primary care residency are combined). But despite the efforts of many dedicated medical educators, it is widely perceived<sup>6</sup> that the necessary fundamental improvement has not occurred.

Why the perception that medical education reform has fallen short of the mark? Perhaps it is because curricular innovations have arisen in a relatively small number of schools and under the leadership of a few dedicated faculty rather than with broad faculty support; innovations have been slow to spread to other schools and the extent of spread has been limited. Perhaps it is because many curricular innovations have, over time, tended to slip back toward the more traditional educational mode, like the boulder the Greek hero Sisyphus forever rolled up the cliff, only to have it roll down again. Perhaps it is because the criteria for judging “successful” curriculum reform are vague: What is the measure by which you know you have “made better doctors?” Moreover, even if you could prove you were making them better, how would you separate the few crucial variables responsible for the improvement from among the hundreds of factors that influence medical students and residents?

Many analysts<sup>7 8 9</sup> suggest that the difficulty with fundamental medical curriculum reform stems less from lack of ideas about what to change and how to change it than from resistance to change. Social, psychological, economic, and political forces, e.g., the dominance of research support in medical schools;

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protection of departmental "turf;" over-zealous faith in the reductionist biomedical paradigm; a general distancing of faculty from the social and emotional meaning of illness; and the preoccupation with scores on certification examinations, may all contribute to this resistance.

## **Educational Process and Structure Versus Curriculum Content**

Most medical curriculum reform, both undergraduate and graduate, has been directed at curricular process, i.e., at questions such as "Should more or less time be devoted to intensive care medicine rather than medical content?" and "Exactly what items or aspects of intensive care are worth the resident's time, and why?"

Thus, the well-known GPEP Report is introduced with the flat-footed statement that: "The student and the teacher, not the curriculum, are the crucial elements in the educational program."

It is not surprising, therefore, that the report itself contains no specific recommendations about what is worth teaching and what is not. Indeed, Conclusion 1 of the GPEP

Report bemoans the excessive preoccupation with "knowledge," i.e., curriculum content, to the exclusion of the development of skills, values, and attitudes. The first recommendation in this section ends with the exhortation to: "limit the amount of factual information that students are expected to memorize."

Note that in making this recommendation the authors of the GPEP report did not address the issue of how the more limited information to be learned by students should be selected. In light of this strong position, it is curious, therefore, that the first recommendation in the section on Clinical Education in the GPEP report is that:

Medical faculties should specify the clinical knowledge, skills, values and attitudes that students should develop and acquire during their general professional education.

Thus, despite their own protestation that curriculum is "not crucial," even the authors of the GPEP report were forced to recognize that exactly what is learned and taught does, after all, matter, at least in some areas of medical education. The effect of this acknowledgment is blunted, however, by failure of the report to specify clinical curriculum content or even to

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provide guidelines for selecting that content, deferring that task to the faculty in each school.

Graduate medical education in internal medicine fares little better than undergraduate education when it comes to specifying the content of residency training or even criteria for choosing what residents most need to learn. The Special Requirements that govern accreditation of medical residencies are directed almost entirely at structure and process, addressing content in only the most general terms.” Indeed, the closest the Special Requirements come to providing guidance on the content of residency training is the general statement that:

The etiology, **pathogenesis**, clinical presentation, and natural history of various diseases must be studied so that the resident will develop skill in diagnosis as well as mature judgment and resourcefulness in therapy.”

A few reforms have addressed the content of medical education. One such effort is the Curriculum *for Internal Medicine Residency* recently published by Jensen and Dirks.<sup>11</sup> Their curriculum provides 174 small-print pages of lists, but does not assign weights to individual curricular elements relative to one another. Thus, the

curriculum does not distinguish the importance of learning “Immunization of the asymptomatic adult for cholera” relative to that of learning “The basic social nature of the doctor-patient relationship.” The result is a document in which everything on the list can be considered equally necessary.

Lists such as these seem to have had little effect on actual medical teaching. Can it be that these lists have carried little weight because they have avoided the arduous but critical final step of priority-setting in curriculum content?

The crucial importance of curriculum content in medical education can be further highlighted in at least three ways: (1) problem-based learning; (2) certifying board exams; and (3) the evaluation of clinical competence.

### • Problem-based learning

After being nurtured for several years by the faculty of only two or three medical schools, major reform using the model of problem-based learning has been rapidly adopted in the past few years by at least 15 schools. At first glance, problem-based learning appears to address almost exclusively the learning **process**<sup>12</sup> rather than curriculum

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content, emphasizing as it does an active, participatory, problem-solving mode of learning and teaching. Less well known, however, is the importance the developers of problem-based learning place on selecting curriculum content. In fact, selection of the “right” problems (content) is seen as an integral, indeed a crucial, element in the success of the entire problem-based approach. Community-oriented medical education, which is increasingly linked with problem-based learning, provides a powerful source of priority setting among the problems chosen for medical education in certain schools.’

Thus, right from the start the originators of the problem-based approach developed explicit and highly prescriptive guidelines for setting priorities for curriculum content. Moreover, the rationale for those guidelines grows directly from the fundamental goals of problem-based learning, i.e., “to produce doctors capable of managing the health problems of those who seek their services, in a competent and humane manner.”<sup>13</sup>

Unfortunately, the jury is still out on the question whether, in some

fundamental sense, problem-based learning actually improves medical education. Indeed, one detailed study concluded that professional socialization under problem-based learning:

... may result in at least some graduates who look like doctors, act like doctors, and speak like doctors, but know little about disease. For them the cloak of competence is merely a **facade**.<sup>3</sup>

Students and faculty at another school founded on the problem-based model have decided to shift substantially away from the problem-based approach because of:

... complaints ... from students that the [problem-based] curriculum was far from logically organized. As a consequence, students felt uneasy about the staffs reassurance that “anything relevant would have been covered by the end of their studies.” First and second-year students increasingly sought for ways to study the basic sciences more **thoroughly**.<sup>14</sup>

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Thus, even in problem-based learning, issues of curriculum content cannot be suppressed; in actual practice, they tend to override process, and emerge as the paramount educational concern.

The intuitive “rightness” of **problem-based** learning is appealing, and the approach has engendered enormous enthusiasm. Much of that enthusiasm may arise because of a genuine increase in the effectiveness of the pedagogical process created by the problem-based approach; some inevitably arises because of the “Hawthorne effect.” But the data suggest that the success of the problem-based approach is limited when it fails to select curriculum content effectively. Could it be then that the development of a rational method for selecting more appropriate and useful curriculum content (problems)-rather than changes in the learning process-may actually be the major strength of the problem-based approach?

- **Certifying board exams**

**The** developers of the exams used to certify professional competence, primarily the National Board examination in the case of medical school undergraduates, and specialty

Board examinations after residency training, have been scrupulous in their efforts to minimize direct influence of these examinations on medical school and residency curriculum. But, despite protestations that these exams are “strictly summative” and formally dissociated from the “formative” process of medical education, many view these exams as the single most important determinant of medical curriculum, even to the point of holding the curriculum “hostage.”<sup>15</sup>

The exact degree of influence by certifying examinations on the “formative” process of medical education is not at issue here. Rather, the point is that these examinations deal purely with content and not with pedagogical method. Their power over medical education must, therefore, be exerted through selection of medical content and implicit assignment of priority to that content.

Certifying examinations clearly serve important functions by creating national standards and reaching levels of psychometric credibility that would be difficult to achieve if done by individual teaching centers. However, to the extent that the medical content

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selected for these exams overrides decisions by medical faculty on the priorities of curriculum content, certifying board examinations may have exerted an unhealthy influence on medical education. At the same time, medical school and residency faculty may have helped create the problem by abdicating the crucial educational responsibility of making curriculum content choices.

#### **The evaluation of professional competence**

Despite the present reality that certification examinations are concerned almost exclusively with content, those seriously concerned with evaluating clinical competence have long believed that measuring knowledge is, at best, a surrogate measure. Their true search, therefore, has been for the “grail” of a fundamental measure of problem-solving skill. This measurement has been envisioned as a single global score, based on perhaps no more than one to three component scores, e.g., knowledge, application of **knowledge**.<sup>16</sup> Preoccupation with the measurement of problem-solving skill is the counterpart of the yearning by educators to teach problem-solving skills apart from

specific content-skills that will enable physicians to handle whatever problems patients present to them and to stay on top of the changes in medicine.

The “grail” of a universal measurement of problem-solving ability has so far proven elusive. Indeed, in recent years it has become clear that clinical skill is problem specific, i.e., the ability to understand, diagnose, and manage a problem in one area is not simply transportable to another problem.”<sup>18</sup> Just as it has become increasingly clear in the world of media communications that “The medium is the message,” it is, therefore, becoming clear in the world of medical competence that “The problem is the skill.” In brief, content matters.

In sum, the data do not support the concept that problem-solving skill is the only aspect of medical education that really matters. On the contrary, skeptics might easily conclude that failure to achieve and sustain meaningful reform of medical education, both graduate and undergraduate, is due primarily to our current inability to decide what is most important to teach, not how it should be taught. Curriculum reform is often

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disparagingly referred to as “just rearranging the furniture.” The metaphor implies that what is really needed may be new furniture, or even a whole new house. Perhaps the metaphor is correct.

## **The Difficulty With Making Curriculum Content Choices**

Why is it so hard to set priorities on curriculum content? First, most medical faculty seem to believe that everyone implicitly “just knows” which curricular content is really worthwhile. An explicit ranking of relative curricular worth is, therefore, unnecessary.

Second, content decisions are seen as “sacrosanct” to domain experts, essentially an issue of academic freedom. Thus, nuts and bolts decisions about curriculum content are left strictly up to individual expert faculty and to individual departments, subject committees, or residency programs.

Third, there is historical precedent-established curricula work, to a greater or lesser degree. That is to say, most medical students graduate successfully, go on to

good residency programs, and become competent professionals. Why fix something that “ain’t broke?”

Fourth, everyone on the faculty is already too busy just getting their basic work done, without the extra burdens of time, effort, and intellect required to revamp curriculum. Since curriculum change means institutional change, and institutional change inevitably brings with it emotional upheaval and political struggles, faculty understandably try to avoid getting involved in curriculum reform.

Faced with the difficulty of educational reform, medical faculty tend to fall back on two major strategies for deciding on curriculum content: (1) nonselectivity, i.e., the view that “Everything is important, so teach everything you can squeeze in;” and (2) subjectivity, the view that “Each faculty member teaches what is of personal interest (by which is often meant ‘research interest’) to him or her.”

Fifth, medical faculty have for many years stoutly maintained that the key to acquiring new knowledge, assessing its quality, and applying it to practice is problem solving and clinical reasoning, not the mastering of specific medical content. The other, negative side of this same pedagogical coin

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is the view (as in the GPEP report) that concern with content is, in fact, wrong-headed and perverse. They have, therefore, slid neatly past the issue of making curricular choice difficult by reciting to their students the conventional wisdom that “Fifty percent of what you learn now will be found to be wrong in 10 years. The only problem is to figure out which fifty percent”—a sentiment that goes a long way toward easing any nagging sense of failure for not setting curricular priorities. Clearly, the spoken message here is that the content of what is taught to students and residents doesn’t really matter.

Ironically, insistence by these very same faculty that their students must master an awesome amount of detailed curricular content remains a major source of “cognitive dissonance” for medical students. Moreover, medicine progresses in many small steps, most of which are outgrowths of existing knowledge and practice, rather than in great discontinuous leaps into the unknown. Solid grounding in the content of today’s medicine is, thus, the best preparation for change, a principle well expressed in the powerful educational precept that “It is very difficult to learn something you don’t already almost know.”

Sixth, every medical school department and clinical specialty truly believes the content of its own discipline is the most important thing students and residents can possibly learn to become true professionals in that discipline. What’s more, faculty within each discipline believe, with some justice, that their field will not attract the best and the brightest young physicians without giving all students adequate exposure to the best that field has to offer. Without new blood, the discipline is seen as being in danger of declining, even disappearing. Adequate exposure means covering the field in detail, which requires precious student or resident time.

Seventh, there is the strong view that attempts to change curriculum are doomed to failure as long as certifying board exams exert such powerful control.

Eighth, the dependence of clinical teaching on real patients makes it subject to the availability of “clinical material,” that is, patients with specific clinical problems. In fact, most clinical teaching takes place in settings whose character is determined by historical, social, and economic factors over which faculty have little control. The passivity engendered among faculty by this reality is reinforced, moreover, by the view that for purposes of learning clinical



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medicine the nature of the patient's problem doesn't matter; clinical skills are learned equally well by taking care of virtually any patient problem. In this context, little incentive remains for selecting or assembling types of patients who might be particularly suited for learning about selected clinical problems.

Finally, no methodology for setting priorities among elements of curriculum content currently exists. Moreover, although understanding of the mechanisms that produce social and institutional change has increased in recent years, the social mechanisms for achieving curricular change that favor "the whole"-that is, students or residents as a group, the profession at large, and the health needs of the largest number of people-over "the individual" are still sadly inadequate.<sup>19</sup>

This array of difficulties is formidable. And while it is true that no single methodological lever on curricular change will be sufficient to dissolve inertia, overcome isolation, break through entrenched self-interest, and solve the practical problems of patient availability, a rigorous, quantitative, and scientifically acceptable methodology for determining curriculum content will be necessary if faculty are to take educational matters

successfully into their own hands and bring about serious educational reform.

## **An Economic Model of Medical Curriculum**

The high value faculty place on freedom of choice has tended to keep medical curricular content squarely in the "free marketplace of ideas." The metaphor of the marketplace suggests it would be useful to look at curriculum in the terms of an economic model-not simply the narrow economics of money, but the broader economics of resource use.

In such a model, curriculum content can be looked at as a commodity, and student time is the currency used to measure the value of that commodity. This model tells us it cannot be entirely accidental that students are described as "spending time" on various parts of the curriculum.

The "academic marketplaces" in which the economics of medical curriculum are played out are complex: medical schools, academic medical centers, and hospitals. And as is the case for the health care delivery system, these academic marketplaces are highly imperfect, distorted by

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many forces, both financial and nonfinancial.

Many of the nonfinancial factors operating in medical **academe** have been described above in connection with the difficulty of setting priorities for curriculum content. In addition, of course, financial pressures are exerted on medical curriculum. **Bloom**<sup>6</sup> takes the extreme view that:

By revising and “experimenting” with the curriculum, with all the scientific paraphernalia of experimental method and evaluation, the institution presents the semblance of rational change even while other forces actually dominate the directions of institutional process. The underlying emphasis on research and specialization as a reaction to incorporating **modern medical science into medical education** has overwhelmed the educational purpose of medical school.

Or, as Rosemary Stevens has said:

. . . medical education has become a minor activity of the **American medical school**. One could take the view that medical schools need medical students, not so much to teach them but to give the entire apparatus of the school a justification for being.<sup>6</sup>

In terms of our economic model of curriculum, the activity known as “curriculum reform” can really be seen as window dressing, a screen for the truth that most faculty view student time as “not really worth much.” In this faculty world, the only currencies with significant value are research dollars—mostly Federal, but increasingly from the commercial sector—and, among clinical faculty, the revenues from faculty practice. To compound medical education’s financial problems, the enormous financial support for the biomedical research enterprise is mirrored by the extremely limited amount of money dedicated explicitly to medical teaching.

Publications in the medical literature are an interesting and important form of “quasi-financial” currency for medical faculty. In contradistinction to teaching or curriculum development, publications in peer-reviewed journals can be measured, even weighed. The “citation impact” of peer-reviewed publications can be, and is, quantitated. In addition to their traditional value in obtaining faculty promotion, higher salary, and other forms of financial security, there is little doubt as to their importance in obtaining further research dollar support as well as support for travel to meetings. Perhaps most importantly, the value of

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publications is transportable outside any one institution into a nationwide academic marketplace, giving them the power of a national rather than a local currency. Is it any wonder that in this academic marketplace student time exists as a devalued currency, with little “purchasing power” among the medical faculty?

### **Rationalizing Curriculum Content: Lessons From the Medical Services Marketplace**

This economic model of medical curriculum suggests that the content of a given curriculum in a given medical school or residency is determined by the vectorial sum of many forces—financial, historical, social, psychological, political, **cultural**—that have little to do with medical education per se. In this respect, medical curriculum resembles medical services whose value, until very recently, was also determined by history, politics, and cultural and social values—forces that had little to do with the intrinsic worth of those services. The result has been a payment system for both physician and nonphysician services in which the value of services has been assigned implicitly rather than explicitly; the value of each individual

service has been determined without regard to that of any other service; procedures have been valued disproportionately to nonprocedural services; and no rational, quantitative, and systematic methodology for assigning values to medical services has been available.

It is also true that until very recently, the economics of health services delivery were constrained relatively little by forces outside the health care system itself. However, with the advent of Medicare and Medicaid, the Federal role in health care delivery increased by a quantum leap. When health care expenditures also began to rise explosively, pressure to conserve finite fiscal resources grew rapidly.

In response to this pressure, serious attempts are now being made to develop objective, data-based, quantitative, and socially acceptable methods for assigning values to medical services relative to one another. These efforts have been at least partly successful in three areas: (1) the broad range of physician services, and, more narrowly, (2) screening for disease, and (3) therapeutic interventions.

In many ways, the competition for dollars in the medical services marketplace strikingly resembles the competition for

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student time in the academic marketplace. It is not unreasonable, therefore, to look to the methodology recently developed for valuation of medical services as a useful model for valuation of medical curriculum. And the recent successes, however modest, in rationalizing the value of medical services, a system that has resisted change for many decades, provides some hope that the problem of assigning values to curriculum content may not be entirely intractable.

- **The Broad Range of Physician Services: The Resource-Based Relative Value Scale**

The most general and, to date, most successful effort to rationalize the valuation of medical services is the so-called RBRVS. From the start, the creators of the RBRVS decided that they would discard completely the existing historical, free-market system of “customary, prevailing and reasonable” charges. In their place they introduced the following process? <sup>21</sup>

- First, they examined the resources needed to deliver a physician service. In so doing, they discovered that they needed to disaggregate this commodity

(physician service) into its component parts: (1) physician work, which was further **disaggregated** into time; mental effort and judgment; technical skill and physical effort; and psychological stress; (2) practice costs, including malpractice premiums; and (3) opportunity costs of postgraduate training to become a qualified specialist.

Second, they assembled physician consensus groups within each specialty to quantitate every component of each physician service under study, using a technique of psychological measurement called “magnitude estimation.”

Third, for each service they calculated an overall, aggregated score of resource use from the weightings assigned to the individual components of the service.

Fourth, they chose a “benchmark” service within each medical specialty, then ranked the overall scores for all services within that specialty relative to that benchmark service, thus creating a relative value scale for the range of services provided by that specialty.

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. Finally, these intra-specialty relative value scales were linked across disciplines, using several quantitative cross-specialty linkage procedures.

The resultant RBRVS is a master list of the values of physician services from many diverse disciplines, ranked relative to one another both within and across specialty lines, and based on an explicit, rational, systematic, and internally consistent methodology. Equally important, the physician community that stands to be governed by the RBRVS was integrated into, hence invested in, the process of its development.

The RBRVS is now law, but as of this writing its conversion into working health policy still requires the development of “coefficients” that will translate relative values (absolute numbers) for physician services into reimbursement dollars. These coefficients will undoubtedly be determined on political and economic grounds.

• **Screening for disease**

While the RBRVS provides an objective, rational, and systematic

approach to reimbursement, two critical elements—quality and effectiveness (the latter term denotes a group of elements including efficiency, efficacy, effectiveness and social utility)—are not included among the factors that determine the value of a medical service. The assessment of “quality of care” remains resistant to efforts to define and measure it. Effectiveness, which is one element of quality, seems to be more amenable to study, and has been included in the priority-setting process in two areas of medical services: screening and therapeutic interventions.

The concept of screening for disease (routine search in asymptomatic people for disease in its early stages), and the techniques for screening, have been available for several decades. Until recently, however, choices among screening procedures were made on implicit grounds, with no objective, theoretical basis. Indeed, as recently as a decade ago, the published literature on selecting screening tests included the statement that:

**Until more accurate and reliable methods for the detection of early localized breast cancer are**

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developed, all current methods of detection must be combined in order to maximize the detection of early breast cancer.”

Characterized as the “evangelist” **perspective**,<sup>23</sup> this approach comes uncomfortably close to the current basis for curriculum development in many medical schools and residencies, i.e., “Unfortunately, we have virtually no information on the most important information to teach. All information must therefore be combined and taught frequently.”

Scholars in the area of screening for disease have recently taken a more considered **approach**.<sup>23 24 25 26</sup> They, too, began by disaggregating the problem into its component parts. Thus, in determining the value of a screening procedure for a particular disease, the following questions become salient:

- What are the incidence and prevalence of the disease in question?
- What burden of morbidity and mortality does it impose on the whole population, or selected subpopulations?

- How acceptable are the available screening tests to the subjects at risk?
- What are the operating characteristics (sensitivity, specificity, receiver operating characteristics, predictive values, accuracy) of the available screening tests?
- Are reliable methods available for making a definitive diagnosis in those with positive screening test results?
- Is effective and acceptable treatment available for early, asymptomatic disease?
- Does evidence exist for true effectiveness of early treatment of subjects with asymptomatic disease after correcting for biases such as lead-time, length, and selection?
- Is the overall process of screening, diagnosis, and treatment for early disease cost-effective?

It is no wonder that this conservative, meticulous, and scholarly perspective on screening has been referred to as the “snail” approach. But despite its frustrations, this slow, painstaking, yet rational approach has a distinct appeal, particularly in this era of rapidly developing screening technology and increasing competition for scarce

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medical resources, and has been very effective in providing a rational approach to the actual use of screening procedures.<sup>27</sup>

- **Therapeutic interventions**

After two decades of reimbursing for medical therapies on “customary, prevailing and reasonable” grounds, the HCFA in 1988 proposed an “Effectiveness Initiative” to study the question of “what works” in medicine. Stated simply, “[the] HCFA proposes to include cost effectiveness as a criterion for the funding of a technology or a procedure.”<sup>28</sup>

Commentary on this decision has pointed out that the **HCFA’s** previous posture:

... **wisely** kept centralized regulatory decisions on reimbursement to a minimum, allowing local bodies to decide what constitutes “medically reasonable and necessary services . . . .” [By so doing], HCFA preserves maximal flexibility in its operations, avoiding the rigidity of limiting its payments nationally to a set of specific, stated services. Medical care has too

many subtleties and **nuances** for it to be so tightly constrained. Nevertheless, it is precisely this flexibility in interpreting what is medically reasonable and necessary that has led to many of the problems in our health care system today. **We need more rigorous criteria for coverage than simply what is customary and accepted practice.** [Emphasis added.]<sup>28</sup>

In establishing these new and more rigorous criteria, excessive reliance on the medical literature and on expert advice may be “... imprudent, since experts are often the ones most biased in their judgments of the needs in their area of technical **expertise.**”<sup>28</sup>

As a first step, the HCFA requested the IOM to recommend clinical conditions that should receive priority attention in establishing therapeutic **effectiveness.**<sup>29</sup> This effort differs from the RBRVS and, to some degree, from priority-setting in the selection of screening tests by focusing on clinical conditions rather than specific procedures, tests, or technologies.

Starting with a modified Delphi process, the members of the IOM committee generated two categories of clinical conditions with

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first and second priorities or “tiers” for initial investigation of the effectiveness of available therapy. The “First Tier” (for initial investigation) contained acute myocardial infarction, angina (stable and unstable), breast cancer, congestive heart failure, and hip fracture. In the “Second Tier” (that should receive later attention) were cataracts, depressive disorders, prostatic hypertrophy, transient ischemic attacks, with or without occlusion or stenosis of the precerebral arteries.

The committee used certain data from the Health Standards and Quality Bureau (**HSQB**) and HCFA files that they felt were of particular value as they began setting priorities. Interestingly, these data closely resemble the criteria used in evaluating screening procedures, i.e., demographics, mortality rates, and patterns of morbidity (mostly as readmission rates and lengths of stay for the various clinical conditions).

The “Effectiveness Initiative” is a long way from completing its evaluation of the effectiveness of therapeutic interventions. However, the problem of “deciding what constitutes medically reasonable and necessary services” strikingly resembles the problem of “deciding what constitutes educationally reasonable and necessary medical curriculum content.” And even the

initial efforts of the “Effectiveness Initiative” committee have provided a working model for ranking the importance of clinical conditions in similar fashion to the rank ordering of technologies or screening maneuvers.

## The Concept of a Relative Educational Value Scale

While the ultimate effects of the RBRVS on physician reimbursement and on the health care system more generally are not yet known, the **RBRVS** promises at least to become the instrument for major reform of physician payment in the United States. More to the point, the principles involved in its creation—a turn away from the historical, nonrational basis of reimbursement; development of an explicit, systematic, data-based, and quantitative methodology for assigning values to a “commodity;” linkage among values on a common scale rather than free-floating values for every service; and meaningful participation in the process by those most affected by the changes—may, in a formal sense, serve as a model for curriculum reform. The criteria developed for evaluating screening tests and therapeutic procedures resemble those used in the



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RBRVS, and the initial successes in those efforts suggest that the dimensions of effectiveness and cost-effectiveness can be explicitly included in curriculum reform.

Medical residency training appears to be under pressures similar to those that forced the health care delivery system to re-examine the value of its components as evidenced by the following:

- The volume and complexity of knowledge, skills, and attitudes demanded of physicians has grown explosively.
- Concern continues to increase over the long-standing disjunction between the reductionist, technological focus of clinical training versus the broader health care needs of the majority of people, particularly in the area of chronic illness.<sup>59 19</sup>
- The increasing shift of patient care delivery from inpatient to office settings.
- The rising dollar cost of medical education which, in turn, is increasing the pressure to shorten the overall duration of medical training.

- Increasing pressure to limit resident working hours, thus constraining the supply of available resident time-the “currency” applied to the training curriculum.

The environment appears to be right, therefore, for the development of a **REVS** as an instrument of medical curriculum reform. How would an REVS be constructed?

## **The Methodology for Creating an REVS**

Given the complexity of the medical education system and the resistance to change of that system, an REVS should be developed as an independent intellectual enterprise, apart from the specifics of curriculum in any given medical school, residency program, or hospital. In order for those affected most directly by curriculum change to be maximally invested in the process, representatives from a variety of training programs, hospitals, and medical centers (geographic, State versus private, military, etc.) and a mix of constituencies (faculty, residents, administrators, payers, etc.) should be involved in the process right from the start. This

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ecumenical approach would also provide a unique opportunity to include input on curriculum priorities from those who, in theory, are in a position to “know best,” i.e., expert practicing clinicians from the community, a perspective that has been conspicuous by its absence in most previous medical curriculum reform.

The final product of an REVS will be a ranked list of curriculum content items, each with an assigned weight or “relative educational value.” Before this weighting process can begin, however, the initial task will be to define the “physician product,” since, obviously, the educational value of various curriculum elements will differ if the goal is to train a graduating medical student as opposed, say, to a practicing neurosurgeon.

For purposes of this discussion, we will take as the educational goal the training of general internists prepared to enter practice in the community, although, with the appropriate adjustments the process could obviously be applied to graduate training in any specialty. Once the educational “product” has been defined, it will next be necessary to determine which dimension of the curriculum lies at the heart of the educational task. Specifying that dimension will, in turn, make it possible to identify

the “salient units” of curriculum that will actually make up the relative educational value scale. In the case of the RBRVS, physician services were the “salient units” to which values were assigned. Similarly, preventable diseases were the focus for the evaluation of screening procedures. And clinical conditions were the units evaluated in the initial phase of assessing therapeutic interventions.

Clinical conditions are, obviously, already the major focus of medical residency training. However, residents and faculty assert little control over exactly which clinical conditions will serve as the focus for their time and intellectual effort. Changes in the health care system have resulted in an increasing focus on desperately ill, hospitalized patients with multisystem failure or who are undergoing “leading edge” technological therapy. Learning medicine in this setting has been likened to learning forestry in a lumberyard. Some guidance is needed on how to get back into the forest.

During most of residency training, clinical conditions are particularly salient, in contradistinction to basic biomedical science or office practice management, for example. The broad category of clinical conditions may usefully be disaggregated into three

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constituent levels: diseases, states, and problems. A fully characterized disease, e.g., diabetes mellitus, consists of information about anatomy, **pathophysiology**, etiology, and functional status. A pathophysiological state is a less uniquely characterized dysfunction, such as edema, congestive failure, or depression, which can have many etiologies, physiologies, and functional effects. A problem is the least differentiated dysfunctional state, e.g., fever, headache, abdominal pain, syncope.

Taken together, these three levels make up a disease-state-problem cluster. As known entities, the educational value of diseases is likely to be greatest in the earlier phases of residency training. Pathophysiological states are often well characterized as to mechanism, but the clinical approach to states is broader and more difficult than for known diseases. Learning about states may be most appropriate for residents in the middle years of their training. Finally, problems, being the least well differentiated, are closest to the “swamp” of clinical practice, and thus require the most clinical sophistication. Emphasis on problems is, therefore, best reserved for the most senior trainees. (It is a particular irony of medicine that undifferentiated problems are often equated with trivial problems, when in fact the opposite is usually true, at least

in terms of intellectual challenge and problem-solving skills.)

As they approach the end of their training, residents’ attention focuses increasingly on the dimension of specific medical services, e.g., managing a **followup** visit for a patient with a chronic disease, as opposed to specific medical conditions, e.g., care of rheumatoid arthritis. The primary REVS composed of clinical conditions (related largely to medical knowledge) may need to be supplemented with a second REVS made up of deliverable services (which are related more to skills and attitudes).

Could the **RBRVS** ranking of physician services serve as the basis for the supplementary medical services REVS? Physician services receiving the highest RBRVS value could simply be accepted as being most valuable in the residency curriculum. For example, if placement and use of flotation catheters received a higher **RBRVS** value than, say, evaluating and treating hypertension in an **office** setting, then the former would be favored over the latter in residency training.

This simplistic logic is appealing, but it has obvious limitations. First, the RBRVS was not designed to serve the educational needs of training in a single medical specialty.

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Rather, it was intended to govern medical care transactions involving the entire population and the entire mix of medical specialties. Second, and more important, the RBRVS does not include the critical dimensions of effectiveness and **cost-effectiveness**, nor does it deal with the element of quality of care and the implications of less than optimal care for a given condition. While the actual numerical values from the RBRVS may be useful as a starting point in formulating a supplementary medical services REVS for medical residency, the content of the RBRVS cannot simply be adopted as is. It is primarily the principles and methodology of the RBRVS, not its content, that “map” onto curriculum reform.

With clinical conditions identified as the key curricular dimension, the next task then becomes how to decide which diseases, states, and problems are more or less important for residents to know about; or, in REVS terms, criteria must be established for assigning educational values to each clinical condition.

In several important ways, this task resembles the weighting process used in the RBRVS, as well as the processes designed to evaluate screening procedures and therapeutic interventions. Given finite

limits on both health care resources and student time, it is reasonable to expect both physician services and student education to address the commonest medical problems. Prevalence alone would, however, obviously be insufficient grounds for assigning educational value. Excessive reliance on prevalence would lead, in the extreme to the “lifeguard fallacy,” i.e., if lifeguards devoted most of their training to the commonest problem they deal with, they would spend most of their time learning to put on suntan lotion.

It is reasonable, therefore, to expect both to deal primarily with **those conditions** that impose the largest aggregate burdens of morbidity and mortality, dysfunction and cost. Finally, both might be expected to select for conditions where therapeutic effectiveness (in the broadest sense) has been demonstrated and cost-effectiveness is most favorable.

More specifically, the criteria for assigning educational value to items on the long list of available clinical conditions might include the following:

- **Frequency.** This criterion should include data on both prevalence and incidence.

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- **Burden of morbidity, mortality, and cost.** This criterion should include a sophisticated analysis of the problem of functional impact (severity), and must not fall into the trap of equating “severity” with “resource use.” There are four dimensions to severity: distress (subjective); dysfunction (objective); urgency (influence of time); and seriousness (threat to life). All should be considered.
  - **Complexity.** While it is important to recognize the added educational demands imposed by understanding and caring for the most intricate and sophisticated clinical conditions, complexity must not be given undue weight. Particular care must be taken not to equate “rare, exotic, or mysterious” with “complex.”
  - **Procedural difficulty.** This refers to the skills (with the related knowledge and attitudes) needed to perform procedures used in caring for the various clinical conditions. Included in this criterion would be a wide variety of procedures and management skills, ranging from diagnosing a point-source epidemic through office management of a somatizing patient, to performance of a lumbar puncture in a patient suspected of having meningitis. (This criterion might be applied mostly to the supplementary physician services REVS rather than the primary clinical conditions REVS.)
  - **Responsibility.** The impact of physician actions in caring for a given clinical condition is the concern here, e.g., diagnosis and management of chest pain carries more responsibility than diagnosis and management of alopecia. Equally important is the degree to which the physician takes responsibility alone, e.g., as in taking a medical history, versus sharing it with members of a team, e.g., in stroke rehabilitation.
  - **Effectiveness.** This criterion uses the demonstrated effectiveness, efficacy, and efficiency of diagnostic maneuvers (including the history and a physical examination) and tests, as well as management and therapies for each clinical condition.
  - **Resource use.** The cost, in terms of personnel, time, equipment, institutional resources, e.g., capital equipment, and dollars is meant here. Both costs to individual patients and the aggregate costs to society would be included.

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In applying each criterion to a clinical condition, a quantitative weighting scale will be required. For certain criteria, e.g., prevalence, mortality, etc., such scales already exist, but they will have to be created for the others, e.g., degree of responsibility and effectiveness. After appropriate weighting to reflect the relative importance of the seven criteria, the subscores for each clinical condition would then be combined into an overall, global score, ultimately making up the REVS.

The list of criteria initially seems intimidating. On further reflection, however, seven criteria hardly seem excessive to establish the educational value of a clinical condition, given the value of resident (and faculty) educational time. Moreover, these seven criteria are not significantly more complex than those used successfully in creating the RBRVS and in choosing screening procedures, from which they were derived. The seven criteria suggested for creating an REVS also resemble the ones listed below, which serve as the basis for determining the content of a problem-based curriculum:‘\*

- Problems, conditions, or diseases that have the greatest frequency in the usual practice setting.

- Those problems that represent **life-threatening** or urgent situations that require skillful, effective emergency management.
- Those problems with a potentially serious outcome, in terms of morbidity or mortality, in which intervention-preventive or therapeutic-can make a significant difference in prognosis.
- Those problems most often poorly handled by physicians in the community, usually determined by surveying both specialists in hospitals or in other referral settings, as well as primary care physicians. The latter groups can be asked about the problems they feel give them the most difficulty in care.
- Those problems that emphasize or underline important concepts in basic sciences such as anatomy, physiology, biochemistry, pathology, pharmacology, and epidemiology are necessary to give the student a sound foundation or prepare him for new trends or concepts in medicine.

How many clinical conditions would require evaluation to make an REVS for medical

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residency training? An interesting question. *A priori*, the number seems overwhelming, the task almost endless. In fact, the job may be quite manageable. Thus, the Medical Council of Canada has recently begun to generate a list of clinical problems for each major area of medicine in which a graduating medical student should be **competent**.<sup>30</sup> The results are encouraging. In a preliminary report, for example, a total of 224 such problems were identified in pediatrics. These problems do not follow a uniform taxonomy but simply reflect the clinicians' view of the diseases, **pathophysiological** states, and problems that are the substrate of the discipline, e.g., in pediatrics: near drowning, enuresis, dehydration, glomerulonephritis, adolescent diabetes, foreign body **aspiration**.<sup>30</sup>

When complete, the internal medicine knowledge base for the Quick Medical Reference diagnostic support system will contain about 750 diseases and **pathophysiological states**.<sup>31</sup> Thus, the task of assigning relative educational values to the clinical conditions of internal medicine, while manageable, will still be formidable. In the interests of efficiency alone, therefore, the initial development of an REVS methodology and the actual value assignments should be done centrally rather than in multiple sites.

These methods and results could then be shared with individual residency programs, which could refine and extend the REVS lists, adapting them to local circumstances. As is true for certifying board exams, REVS methods and materials developed on a national scale would have substantially greater credibility than those developed in any single residency. However, faculty in individual residency programs might be less willing to make the hard choices regarding curriculum content if they did not have the opportunity to review and modify the "core" of centrally produced material. Medicine changes. The REVS methodology should, therefore, be crafted in such a way that established "educational values" could be easily and accurately updated as new scientific information becomes available on morbidity, mortality, complexity, effectiveness, cost, etc., and as the resources available for medical care change.

## Implementation: The Implications of an REVS

Is an REVS feasible? Would it be useful in improving medical residency training?

An REVS is likely to confirm, objectively and quantitatively, many current intuitive

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perceptions about curriculum priorities, e.g., that it is more important for most residents to learn to care really well for patients with myocardial infarction than for those with, say, Huntington's **chorea**. However, an REVS would be suspect if it only confirmed what we already think we know. Thus, an important promise of an REVS would be its potential for arriving at counterintuitive conclusions. For example, the current distribution of medical residents' time and effort reflects an implicitly higher value assigned to learning about adults respiratory distress syndrome than about urinary tract infections in ambulatory patients. An REVS might reverse these priorities.

It is also to be expected that the clinical problems in certain subspecialty areas of internal medicine will be less heavily represented than others at the top of the REVS scale. While this might go down hard with those subspecialties whose clinical conditions were less well represented at the top, this is exactly the curricular discipline expected of an REVS, the task that has been so difficult to accomplish by other, less objective mechanisms of curricular reform.

The clinical conditions that wind up toward the bottom of the scale are not intrinsically

less important. The point is that they are less important as part of general internal medicine training. These same conditions might, for example, be high on the list of material to be mastered during subspecialty fellowship training.

Information of this kind could have major implications for the design and conduct of residency training. Thus, despite the conviction that ambulatory care training is slighted in favor of inpatient experience, the shift to training in ambulatory sites has been resisted at many levels—from inpatient service needs to finances. Overcoming that resistance will require, among other things, a clear, powerful rationale for more ambulatory care teaching. Unfortunately, the rationale for making the shift is currently phrased in general terms that lack power and precision (“That’s where the patients are.”) and tends to be expressed as reasons why inpatient services are not suitable for training (“Hospitals are turning into large intensive care units.”), rather than why ambulatory care training is so important. An REVS, providing explicit, objective, and detailed documentation of the educational value of the many clinical conditions seen primarily in ambulatory settings, could provide that rationale.



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In contradistinction to the RBRVS, which is primarily a political and economic undertaking, an REVS would be primarily an academic one. Its findings would not be binding with the force of law or regulations; rather, they would be effective in proportion to their intellectual worth. However, an REVS will obviously not actually find patients with the appropriate clinical conditions, nor the faculty with the expertise needed to teach about them. By itself, therefore, an REVS is not sufficient, but, without an REVS, it will continue to be very difficult to marshal the patient and faculty resources necessary to bring about change.

Being an academic, voluntary effort, an REVS would, in no way, of course, restrict teaching about anything the residency faculty felt was important. Its purpose would be to provide guidance to those clinical conditions or problems that residents should master, to a degree and depth determined by the faculty, by the time they finished residency, and which would, therefore, command the highest priority in the competition for resident time. Recognition that faculty not only remain in control of an REVS but that an REVS is designed to keep medical faculty, rather than outside agencies, in control of the curriculum will be crucial in dealing with

the concern that assigning relative values to curriculum content might be a threat to academic freedom.

The comprehensive, systematic nature of an REVS would be an important source of reassurance to residents and faculty that their training had been “complete.” For similar reasons, an REVS could be an important guide for future development of Board certification exams, which could evolve from a framework that had more in common with residency curriculum than is now the case. As noted earlier, the Medical Council of Canada has already initiated an “REVS-like” process as part of a major revision of their Qualifying Examination, the counterpart of the specialty Board exams in the **U.S.**<sup>30</sup>

The working elements of the REVS process, e.g., refining evaluation criteria, assembling data on value from the published literature (and from clinicians), and assigning educational values, would, in itself, be extraordinarily educational for those who carried it out. As the source of important new knowledge, work on an REVS should also be considered a legitimate and important academic undertaking, and should be included among the criteria for academic promotion. At the very least, development of an REVS would

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reveal areas where important data were lacking, thus establishing important research agendas-as is already the case in the HCFA "Therapeutic Effectiveness" effort. It seems likely, moreover, that participation in the REVS process would itself serve as an effective and innovative addition to the medical residency curriculum.

Finally, an REVS will not "just happen;" it must be seen as "fundable," and it must be funded. Medical schools, hospitals, accrediting bodies, certifying boards, and funding agencies need to be convinced that curriculum content matters, and that the concept, methodology, and results of the REVS are worth supporting.

To this end, the REVS concept should be discussed, criticized, refined, and disseminated as widely as possible. In particular, the ways in which an REVS could be "translated" into decisions that affect residency training should be examined. Without a strategy for funding and implementation, the concept of an REVS will remain only another interesting idea, relegated to a dusty shelf. With proper support, an REVS could become a dynamic source of leverage for meaningful medical education reform.

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# Osteopathic Education: Does a Practice-Based Orientation Enhance Primary Care Delivery?

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## Introduction

A conference on medical care for underserved people undoubtedly must consider two separate but related issues: production of primary care physicians, because subspecialists are little needed in a community where primary care needs remain unmet; and placement of needed physicians in underserved areas.

The osteopathic profession has had a good record in responding to both needs. It directs a disproportionately large percentage of its graduates into primary care, especially family practice, and it serves more than its share of rural communities. The educational practices of the osteopathic profession have, therefore, been deemed worthy of examination.

The osteopathic profession has conducted few formal studies of its own educational system for this purpose. To present research-based information, one must examine relevant work by others, and then compare osteopathic educational practices with published findings.

Both issues under discussion—producing primary-care physicians and placing them in underserved areas—are admittedly complex, and there are papers supporting a variety of

points. If “answers” are to be found, almost certainly they will be in a composite view.

## Definitions

There are small differences in what specialties are included under primary care; there are great differences in the populations labeled the “underserved.”

The most inclusive definition of primary care includes family/general practice, general internal medicine, general pediatrics, and obstetrics/gynecology. Some definitions omit obstetrics/gynecology; some include emergency medicine. In the osteopathic profession, until very recently, it was assumed that primary care meant general practice, a term that has continued to be used for **D.O.’s** whose training and certification are parallel with M.D. family practitioners. My personal experience is in general/family practice, and I make no effort to differentiate primary care specialties in this presentation.

Underserved, populations are heterogeneous. Urban underserved communities often are identified by ethnic, racial, or economic characteristics, while rural communities are commonly thought of as isolated, migrant,



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sparsely populated, or “backward.” Stereotypes fall when one attempts to be exact.

The definition of “rural,” for example, varies greatly. Johnson, in his address at the first HRSA conference,<sup>1</sup> cited a Federal division of rural counties into seven groups: farming dependent, manufacturing dependent, mining dependent, specialized government counties, persistent poverty counties, Federal land counties, and destination retirement counties. Johnson himself divided the areas into traditional rural, urban fringe rural, and frontier rural.

Lurie and Yergan, in a forthcoming paper,<sup>2</sup> take a totally different approach to definitions. They use the term “vulnerable populations” to describe:

. . . **those** patients whom a substantial number of physicians regard as undesirable because they lack the means for medical services, because they **have** medical problems **that** are difficult to manage, or because they **have** characteristics that give them low **social** status.

They include uninsured or underinsured groups, those on public assistance, and “those who are likely to become or remain ill because of multisystem chronic disease, mental illness, substance abuse, or

handicaps such as physical or sensory impairment,” whether or not they are poor. Finally, they list:

. . . patients that providers tend to view as undesirable because there are insufficient resources to **deal** with them; they require more **than** the **usual** amount of physician effort, slow busy practitioners down, or have **social** or **cultural** beliefs and practices **that** most physicians do not understand very well. Examples include, in some settings, certain **racial** and **ethnic** minorities, refugees, most non-English speakers, and HIV-positive patients and gay individuals.

**Melnick**<sup>3</sup> uses an analogy to suggest that underserved populations have much in common with the geopolitical “third world.” These populations seem to “be nothing and wanting to be something” and generally associated with underdevelopment, poverty, and economic dependence. These populations, like the geopolitical third world, suffer from relative inattention, and they are growing “with super speed.”

**Melnick** carries the analogy into another dimension and identifies certain medical practitioners as a kind of “third world of medicine.” He includes those who serve the underserved: geriatrics, rural medicine, and, “for want of a better term, minority

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medicine.” These may be the “have **nots**” of medicine, as will be discussed more in detail later, the underprivileged segment of primary care.

## Force Field Analysis Charts

Force field analysis is a technique for recording on paper and evaluating multiple factors, both positive and negative, that have an effect on a given question. A desired outcome is known. The forces that facilitate (“drive”) or inhibit (“restrain”) a move towards that outcome are delineated as if they were soldiers in opposing armies, confronting each other across a battle line. The battle line is the “present situation.” To achieve a desired outcome, there must be more and stronger driving forces or fewer and/or weaker restraining forces. If there is no change, the present situation becomes a stalemate.

An important point about force field analysis is this: It is not necessary to modify each driving and restraining force in order to produce change. Rather, the sum of the driving and restraining forces must be modified. This implies a practical course of action, namely, to concentrate on the driving and restraining forces that are most malleable.

Lists of driving and restraining forces for both issues-choosing primary care and serving the underserved-are long but probably not exhaustive. Some studies suggest that multiple factors can be predictive of a choice of primary care, for example.<sup>7</sup> Other studies seem to indicate no statistical correlation between the choice of primary care and many of the listed factors, or say something as general as that during predoctoral and postdoctoral training a change in motivation **occurs**.<sup>5</sup> Still other studies emphasize the importance of individual factors, like decisionmaking **patterns**<sup>6</sup> or individual social profile.<sup>7</sup>

Similar factors seem to affect both choice of primary care and choice of underserved area. Further, many factors could be listed as either driving or restraining forces, depending on how they are stated. Several points appear in the literature with differing emphases. For these reasons, a fully detailed picture would be beyond the scope of this presentation. Therefore, lists have been constructed with factors listed in the most obvious places, while the commentary covers items in a more general way.

To reach the twin goals of encouraging choice of primary care and encouraging

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choice of serving the underserved, there are six basic points that seem to recur:

- Make primary care a more attractive career.
- Organize predoctoral and postdoctoral training institutions and programs to reflect that attractiveness as well as to provide practical preparedness.
- Recruit students who are likely to make good primary physicians.

- Provide training experience that will lead toward primary care.
- Present to students and residents positive experiences in service to the underserved.
- Make practice among the underserved more attractive.

The following sections of the paper are designed to elaborate on these points.

## **CHOOSING PRIMARY CARE: DRIVING AND RESTRAINING FORCES**

### **Driving Forces**

#### Recruitment:

1. Supportive medical admission process
2. Students from rural or other under-served areas
3. Size of matriculants' and spouses' communities
4. Demographic characteristics
5. Disadvantaged students and/or minorities

### **Restraining Forces**

#### State of the specialities:

1. Lower income in practice
2. Less controllable lifestyle
3. Lower professional and social status
4. Lower academic privileges: rank, tenure, salaries

*Continued*

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### Driving Forces (continued)

#### Recruitment (continued):

6. Female sex and older age
7. Personality characteristics (**Myers-Briggs** Type Inventory)
8. Academic characteristics
9. Orientation to family practice
10. Vocational focus
11. Values and lifestyle
12. Decisionmaking methods

#### Medical school experience:

13. Defined goals of predoctoral education
14. Amount of family medicine in the curriculum
15. Rural clinics and preceptorships
16. Order of clerkships
17. Interplay of faculty and clerkships
18. Faculty committed to teaching students
19. Family practice faculty
20. Role models
21. Rotating internship

### Restraining Forces (continued)

#### Educational funding sources:

5. **NIH** support for research, not service
6. Faculty practice plans (lower earning capacity of primary care departments)

#### Medical school organization:

7. Academic health centers
8. Traditional medical curriculum
9. Lack of faculty contacts
10. Lack of role models or negative role models
11. Barriers to ambulatory education
12. Pressures on volunteer faculty

#### Medical school experience:

13. Experiences during the first 3 predoctoral years
14. Negative peer group attitudes
15. Negative faculty attitudes
16. Lack of opportunity to experience primary care
17. Changes of mind during school
18. Increasing student debt

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**SERVING **THE** UNDERSERVED: DRIVING AND RESTRAINING FORCES**  
***(In ADDITION to those involved in choosing primary care)***

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**Driving forces**

1. Proper selection of medical students (see criteria under "Choosing Primary Care," especially choice of students from underserved area)
- 2.** Courses in rural/minority medicine
- 3.** Early exposure to underserved populations
- 4.** Mandatory clinical training in a variety of underserved areas
- 5.** Special training to accommodate the differences in servicing an underserved population

**Restraining forces**

Personal issues:

1. Lower income and difficult reimbursement
2. Decreased desirability of living
3. Negative status
4. Geographic and professional isolation
5. Instability of rural America

Professional issues:

6. Difficult populations to care for
7. Lack of continuity due to the mobility of the population
8. Medical problems compounded by social problems

Educational issue:

9. Great difficulty in faculty recruitment

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## Make Primary Care More Attractive

“Make primary care a more attractive career.” This first point in the outline brings one immediately to some negative realities. Schwartz, et al.,<sup>9</sup> summarize what goes into choice of a medical specialty:

Along with the traditional factors affecting choice of specialty training by medical students, influences on selection include **specialty** content, role modeling, perceived specialty prestige, degree of professional autonomy, and presumed future financial rewards. Additional factors include the potential for medicolegal liability, increased student attention to personal, social, and family considerations, and a deteriorating funding base for graduate medical education . . . A major reason for this trend was the students’ concerns about future lifestyle and financial remuneration.

Nearly everything on the list points away from the primary care specialties.

Primary care physicians can expect to earn less than their subspecialist or **technology**-oriented colleagues. As has frequently been noted of late, the specialties are much more richly reimbursed for the performance of invasive procedures than are the primary care groups for cognitive medicine.

Although steps are being taken to address some of these inequities, it is unlikely that any shift will be significant enough to create positive incentives for primary care.

This issue has been on a **HRSA** conference agenda before. In the 1988 conference summary\* an “arching concept” was the need to rectify the financial disincentives for entering primary care careers and the inadequate funding for primary care research.

In the traditional academic health center, students readily see that **salaries**, privileges, and rank and tenure opportunities are better for subspecialists than for primary care physicians. Only 13 percent of full-time family practice faculty have full professorial rank, while 25 percent of all medical school faculty have that rank.” Tenure and advancement in academic rank are often linked to research, and this is **difficult** for a service-oriented specialty in a field where available dollars are sharply limited.

**Wilson**<sup>12</sup> has written, “Despite what we say about rewarding teaching and service to the medical school, tenure is granted for papers published in the ‘right’ journals and grants from the ‘right’ agencies.”

Respect for primary care physicians is frequently lacking among subspecialty

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faculty. The role of the primary care physician in the academic health center is minimal; therefore, the message received by medical students is that their status is minimal within the entire complex of medicine.

It is not uncommon for outright antagonism to exist between various specialty departments and primary care units within medical schools. The issues of turf, finance, and privileges are just a few causes of this antagonism. It is unfortunately common to have general practice or primary care internal medicine and pediatrics belittled by the members of the faculty who view the practice of these disciplines as trivial. This cynicism is readily perceived by medical students, who then tend to emulate their subspecialty professors.

The issue of prestige has even crept into the social community. In the past, someone would ask, "What do you do for a living?" and when the response was that you were a physician, that was the end of the discussion. Today, the response is followed by the question, "Well, what kind?" Generally, one gets a more favorable reception when the answer is, "I'm a surgeon," or "I'm a cardiologist"

than when one says, "I'm a general practitioner."

The issue of prestige is important and, when coupled with negative financial incentives to both the school and the individual, it is no wonder that there are significant challenges to primary care education, especially in underserved areas. One result of diminished prestige and reward has been that:

High achieving students are advised to enter university hospital residencies, where academicians and subspecialists are being prepared. Students with lower **grades** are steered into primary care residencies. . . . Faculty role models effect change in residents' career goals. Shifts . . . occur only in one direction: from generalist to subspecialist, since [virtually] all full-time faculty are **subspecialists**.<sup>13</sup>

At least until recently, when large numbers of **D.O.'s** began to train in M.D. academic health centers, osteopathic primary care physicians had professional status, even if they did not earn as much money as the D.O. subspecialist. In osteopathic hospitals, which almost always are small and community-based, general practitioners participate directly in the care of their patients, rather than simply referring them

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to a team of subspecialists. The image produced for the student is more positive.

practical preparedness.” This is the second point on the “do list,” and, once again, there are serious barriers to overcome.

**Structure Training Institutions for Primary Care**

“Organize predoctoral and postdoctoral training institutions and programs to reflect that attractiveness as well as to provide

Funding patterns for medical education are not conducive to emphasizing primary care. Medical schools receive their support and their budget from the following sources, as described by Ebert and **Ginsberg**:<sup>14</sup>

Source	Percent, 1963-64	Percent, 1985-86
Federal research	36	21
Other federal	18	4
State/local	14	20
Tuition fees	5	6
Medical service	3	34
Other	25	15

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In the period covered by this chart, the greatest increase has been in the proportion of income generated by medical service. In this context, economic incentives for primary care do not exist. Specialty departments, by virtue of both their ability to create more practice plan revenue dollars and their ability to attract greater numbers of research grants, provide the medical school with its greatest income. The chiefs of these departments, although typically they provide little direct support for predoctoral education, dictate the manner in which the academic health center is run.

Ebert and Ginsberg question the appropriateness of the academic health center as the dominant clinical training site for medical students. They state that:

**AHCs** were formed in the belief that there was a congruence in mission between the medical school and its principal teaching hospital. **This** may no longer be true, as the teaching hospital seeks to maintain and strengthen its highly specialized tertiary care services, and the medical school is forced to establish new ties with groups whose work is centered in ambulatory care settings. **Both** the teaching hospital and the medical school have important missions, but they are not identical.

If primary care is to achieve a greater role in predoctoral and postdoctoral education, appropriate support will be required. All ambulatory training facilities will need to be reimbursed in a fashion similar to that of hospital-based training. While ambulatory facilities operated by hospitals do receive some reimbursement from **third-party** payers, free-standing centers do not.

The strength and the emphasis in these centers is graduate education. The curriculum for the residents in a specialty area is in the purview of residency review committees and chiefs of the departments, and it has little to do with the medical school. Members of the specialty department typically do little training of medical students; this responsibility is relegated to residents. Therefore, there is little relationship between the specialty departments, which drive the academic health centers, and the predoctoral curriculum. Yet because specialty departments are so powerful, they are pre-eminent in curricular decisions. Service required by specialty departments typically is a factor in determining the predoctoral curriculum. Primary care departments are in a comparatively poor bargaining position.

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Concerning the portion of funding that comes from the Federal Government: One need only compare the \$7.8 billion budget of the NIH with the \$250 million budget of the HRSA to recognize the financial incentives involved in subspecialty versus primary care training. This comment in no way is meant to diminish the contributions of and the continuing need for scientific and medical research supported by the NIH. It does, however, give some idea of the Federal priority given to those two items. These priorities are passed on to the medical schools in terms of dollars available to support programs.

It is difficult to secure adequate reimbursement for nonhospital-based postdoctoral training and virtually impossible to attain this support for predoctoral education. Dollars for postdoctoral training may trickle down to the predoctoral areas, in which case the training tends to be by residents in highly departmentalized categories.

Other barriers to ambulatory education are also present. They include, at least:

- Resistance on the part of faculty because of such items as lack of tradition, perceived inconvenience, and

lack of experience in ambulatory settings;

- The perception that education in ambulatory care is outside the central teaching mission since it usually exists only if grant support is available and often occurs at locations seen as marginal to the academic enterprise (community hospitals and practices);
- Financial barriers; and
- Trainee resistance, usually because the educational experience is perceived as being of poor quality.”

**Boufford<sup>16</sup>** elaborates on one of the financial barriers:

Insurers recognize teaching as a reimbursable cost when paying for inpatient services, they usually do not do so, or do so only marginally, when paying for outpatient care. Further, **because** reimbursement for nonprocedure-oriented services is low, little incentive exists for hospitals to support primary care ambulatory practices.

Ambulatory training is as much a problem for D.O. as for M.D. institutions. The general practice residency at Southeastern College of Osteopathic Medicine (**SECOM**)

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demonstrates the point. Because the college does not own or operate its own teaching hospital, the residency is accredited to the college. Therefore, the program is not eligible for reimbursement through the usual direct or indirect Medicare methods used for reimbursement of hospital-based programs. The cost of operating the residency, including the stipends, benefits, faculty salaries, and cost of operating an ambulatory care facility, falls solely on the college. The two ambulatory sites used for this training are both in indigent areas, and revenues generated do not begin to meet the fiscal requirements of the training program. The State provides approximately \$14,000 per year, per trainee, to each family practice residency in Florida. This covers somewhat less than half of the stipend and malpractice and benefit costs of the residents. It does not account for faculty or operational costs. The college is saddled with a serious operating loss for the residency training program.

The same ambulatory care sites are also used for training predoctoral students, and the rationale is applied that some of the tuition and other predoctoral dollars should be applied to ambulatory training. However, one cannot overlook the negative incentive for medical schools to train in this environment.

While dollars are not the only incentive in primary care education, they are probably the single most important determinant for the direction of medical education and the practice of the professions. If it suddenly became economically beneficial for a major metamorphosis to occur in medical practice and medical education, this metamorphosis would quickly occur.

Pressures on volunteer faculty are an additional issue. This is not only an osteopathic issue; there are over 120,000 volunteer faculty members for clinical disciplines in the allopathic profession as well.<sup>17</sup> Pressures are not limited to, but certainly include the following:

- The pressures of practice and the ability to be successful. It has been demonstrated that teaching in the clinical setting leads to decreased productivity for those people who are preceptors.
- Many faculty members currently have appointments to health maintenance organizations and are pressured to contain costs. The inexperience of medical students is frequently **cost-**ineffective, in the ambulatory as well as the hospital environment.

- At least in Florida, there are serious concerns about the rising cost of malpractice and concerns about malpractice potentially being generated in the teaching situation, although there is little documentation of that in the literature.
- There are time constraints on volunteer faculty who are trying to make a living. This certainly could affect the amount of volunteerism that we see in the future.

Another way of expressing the difficulty in producing primary care specialists is that schools are not organized to teach what **Freyman**<sup>18</sup> calls “denominator medicine”—treatment of a majority of those who seek medical care. To illustrate, he cites a **study**<sup>19</sup> estimating that out of every 1,000 adults, 750 could recall some sort of illness or injury in the previous month. Of those 750, 250 consulted a physician. Of the 250 who consulted a physician, only 9 were hospitalized, and of those only 1 was admitted to a university hospital. That one patient was the “teaching material” for what is still considered the ideal in medical education.

**Freyman** does contend that the osteopathic medical profession has not deserted

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## Recruit Students for Primary Care

“Recruit students who are likely to make good primary physicians.” In the third point on the outline of “things to do,” at last one finds an issue for which some positive guidance is available.

In a study by **Rabinowitz**,<sup>21</sup> students entering Thomas Jefferson University under a Physician Shortage Area Program (**PSAP**) came into medical school with supporting letters from community leaders who personally knew the applicants and could attest to their individual qualities and commitment. Applicants had to convince the admissions interviewers that they were committed to practice in a physician shortage area. **Followup** indicated that 62 percent of the PSAP group entered family practice residencies, compared with 12 percent of the **non-PSAP** group.

Both Rabinowitz<sup>21</sup> and **Denslow**<sup>23</sup> (Kirkville [MO] College of Osteopathic Medicine) have reported good statistical probability that students from rural areas will return to those areas to practice. Rabinowitz later **suggested**<sup>24</sup> that preferentially admitting students from rural backgrounds, who were interested in a career in family medicine,

could help to increase numbers of primary care physicians. There also is supporting evidence **from** the Gannon-Hahemann experience.<sup>25</sup> Similarly, a study by Holmes and Miller<sup>26</sup> showed that graduates reared in large communities chose similar-sized communities as practice sites and placed high priority on their spouses' desires.

Recruitment of students with an interest in primary care is important. Although many students change to other specialties (up to **75 percent**),<sup>27</sup> almost none who did not express an initial interest in family medicine ever choose that specialty. “Selection of a career by medical students appears to be the result of a balance between positive and negative factors. Initial preferences are determined largely on the basis of positive factors .... and changes are largely made because of negative factors detected in the specialty that then leads the student to another career choice.”<sup>28</sup>

One **study**<sup>29</sup> found that first-year students who preferred family medicine were more interested than other students in using medicine as a tool to help people and showed less concern for themselves than others. However, they were at an earlier stage of the decisionmaking process than other first-year medical students. The

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implication is that change is more likely in early stages of decisionmaking.

There is evidence that a large proportion of entering students do have a desire to go into at least one of the primary care specialties. During medical school, for reasons that appear to be a combination of curriculum, personal experience, and contact with faculty, this preference is either reinforced or, more often, it changes. **Graham**<sup>30</sup> has said recently:

. . . family practice is the only specialty where people come into medical school being interested and then change before exit. For all other specialties, the issue in medical education is recruitment. For family practice the issue is retention, **from** the first day of medical school.

What that tells us is that already we may have an opportunity to have more people interested in family practice than are presently exiting medical school. However, something is happening in the medical education experience which is training it out of them, discouraging them, not providing them with role models, not providing them with the opportunity to consider family practice a legitimate medical specialty.

**Morkert**<sup>31</sup> suggests that the decrease in family practice preference during the course

of medical education may result from an increased awareness of **other** specialties, and he found that years three and four were the most influential period for change.

Personality type, as measured by the Myers-Briggs Type Inventory (**MBTI**), may be useful. **McCaulley**<sup>32</sup> longitudinally studied about 5,000 physicians and found a significant relationship between type preference and physician interest in a particular specialty. Specifically, “sensing” types were more interested in direct patient care (family practice) and were more likely to choose smaller communities. Walton, **Alpert**, and **Draba**<sup>33</sup> used the same tool and found similarities between **D.O.’s** as a whole and the **M.D.’s** in primary care areas: a higher frequency of “sensing” and “sensing/ judging” types.

At Southeastern College of Osteopathic Medicine, we studied our first six classes with the MBTI and found that, except for the founding class, extraverted sensing/ judging types were dominant. However, the classes showed a wide variation in distribution of the 16 personality types, so that using personality preference by itself may not be a strong **predictor**.<sup>34</sup>

In a retrospective, longitudinal study by **Rozler** and **Kalishman**,<sup>35</sup> it was concluded

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that demographic and academic characteristics, father's education, and grade point average in college have good predictive validity for stability in family medicine. Also, more "sensing" and "feeling" personality types were in family medicine, while more of those who shifted to other specialties were "perceptive" types.

There are conflicting opinions on the probability of racial/ethnic minorities choosing primary care specialties. Two presenters at a 1989 conference sponsored by the National Advisory Council, NHSC, stated categorically that the groups they represented were more likely to choose primary care. The president of the NMA, while recognizing the difficulties all primary care physicians face, said that "minorities select primary care specialties in greater percentages than nonminorities."<sup>37</sup> The president of the Chicano Medical Association of California said that "over 30 percent of **Latino** students graduating from California medical schools go into family practice. If we take primary care as defined by NHSC, that number reaches 80 percent."<sup>37</sup> On the other hand, in a recently published study by Babbott, et al.,<sup>38</sup> the finding was that racial and ethnic background appear to make no difference in terms of specialty choice and that specialty

choices by those groups seem to parallel other groups.

Lieu, Schroeder, and **Altman**<sup>39</sup> found that in one medical school the group entering personal care specialties was significantly older and included more women and fewer minority students than the group entering technology-oriented specialties.

## **Offer Appropriate Medical School Experience**

"Provide a training experience that will lead toward primary care." This is the fourth point on the list of things that need to be done to accomplish the goal of placing primary care physicians in underserved areas.

The medical school experience contains factors that can encourage and nurture students in primary care, or turn them against this specialty. The ability to accentuate positive influences and reduce the negative forces can make the difference. Some differences between the allopathic and osteopathic experience can be identified in connection with this issue.

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August Swanson, in introducing an issue of Academic Medicine containing several articles relevant to primary care choices, gave a succinct summary of the problems in the medical school **experience**.<sup>40</sup>

Students' and residents' predominant experiences are in the care of very ill patients whose needs for specialized services obscure any role for generalist physicians in our health care system. . . . Lacking examples of generalists in medical schools and assailed by the information overload that begins in most schools on the first day of matriculation, it is not surprising that many students conclude that a specialty career is the only option. To some degree this conclusion is reinforced by their observations of the relative affluence and the lifestyles of specialists. . . . The most powerful forces for changing distribution among specialties remain the experiences of students and residents as they progress through their education and the number of graduate medical education positions available for specialty training. Policy decisions by academic medical centers to modify these forces could have a powerful effect on future specialty distribution.

This is an area where osteopathic medicine differs **from** allopathic medicine, because we train students in predominantly ambulatory and definitely community settings. Positive role models appear to be

one of the major positive forces in a student's decision to choose primary care; indeed, it has been said that faculty members appear to have greater influence on specialty choice than do **events**.<sup>41</sup>

Denslow, et al.,” found at Kirksville College of Osteopathic Medicine that, in addition to the size of the student's home town, curricular experiences and faculty role models were the most important factors in selection of rural primary care. Training at rural clinic sites, repeatedly mentioned as an influential experience, has been a long-time feature of the Kirksville program, and similar programs are offered in other osteopathic colleges. These programs may represent major reasons for the profession's success in the production of primary care physicians.

Brearley, Simpson, and **Baker**<sup>43</sup> also wrote about the importance of role models and concluded that “family physicians should never underestimate themselves as role models both for students interested in family practice and for all students who are interested in medicine. . . . The value of preceptorships in all years is striking.”

Much has been written about the order in which clerkships are taken. Paiva, et al.,” found that **80** percent of the true change



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students and 73 percent of those who had been undecided chose specialties they experienced in the first half of the clerkship period. However, they considered their most important study finding to be that:

A good clerkship program, by itself, exerts only a relatively small influence on specialty decisions. However, the clinical teaching faculty appears to be an essential factor that, in combination with a well designed program, exerts a very important influence on students' specialty choice.

With these insights, one can begin to identify a pattern of relevant factors: required early clerkships in primary care, especially family practice; strong role modeling by faculty; availability of faculty and preceptorships in combination; and location of many of these among underserved populations. Where these experiences are not disjointed, they begin to look like osteopathic medical training. **D.O.'s** typically have extensive exposure to family practice, starting very early in the curriculum, and our schools place heavy emphasis on family practice faculty. Indeed, the largest percentage of full-time faculty at osteopathic colleges, 18.3 percent, is in general practice" (parallel to family practice), while only 3 percent of faculty in allopathic schools are in family practice.<sup>46</sup>

Osteopathic schools require students to spend much time in primary care, especially general practice, in the first 2 predoctoral years as well as in clerkships and preceptorships. Schools may differ in the way they handle clerkships-College of Osteopathic Medicine of the Pacific, for example, requires four **4-week** general practice preceptorships in the junior and senior years-but similar requirements are in place at other osteopathic colleges.

The literature seems to indicate that "the more, the better" if one wishes to produce primary care physicians. Harris and **associates**<sup>47</sup> found that students who preferred family practice and had completed a track program were found to select a residency in family practice more often than **nontrack** students, regardless of their career preference. **Campos-Outcalt** and **Senf**<sup>48</sup> suggest that the greater the exposure to family medicine, the more likely it is that students will find the field appealing. They also noted that stronger family medicine departments may have better role models and be more successful in obtaining larger amounts of required curriculum time. Their data showed that students who attend schools with a required third-year clerkship in family practice are more likely to enter the specialty than are students **from** schools with a required fourth-year clerkship.

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Geographic location of a medical school also appears to have some influence on specialty choice, they said, although this has not been studied in conjunction with all of the other factors mentioned.

The issue of purpose in medical school curriculum provides another focus for consideration. Ebert and **Ginsberg**,<sup>49</sup> after describing typical funding patterns for academic health centers, said that medical schools no longer have a clear-cut goal for undergraduate medical education. "Is it to prepare students for the specialty practice of medicine, or is it general medical education, and if the latter, to what purpose and end?"

Osteopathic medicine has long acted on the unspoken principle that our institutions must provide a well-rounded education. One college **president**<sup>50</sup> has recently written that:

The ultimate goal of undergraduate medical education **is** to provide the opportunity for a firm, scientific foundation and the development of empathic, well-educated individuals committed to lifelong learning in medicine.

The osteopathic profession also has maintained one other important educational difference: a requirement for a rotating internship. The profession has considered this a vital part of a well-rounded

educational experience, which also encourages choice of primary care specialties. Because osteopathic rotating internships take place in community hospitals, primary care is reinforced. Primary care role models are much in evidence, and they are seen caring for their own patients even when subspecialists are called in consultation. The osteopathic profession also depends heavily on ambulatory care facilities and volunteer faculty in its educational process. Primary care physicians dominate the process, as opposed to the situation in academic health centers where strong clinical department chairmen dictate policy.

Estimates of the percentages of students entering medical school with the desire to go into primary care and then changing vary between **50 percent**" and **80 percent**.<sup>52</sup> However, there is general **agreement**<sup>53 54 55</sup> that negative role models are involved in this change. Rabkin summarizes the problem:

Increasingly specialized, [the attending physician] may tend to focus on the development of remarkably narrow information relating more to his interest **than** that of the patient. ... **The** refined focus is wrong for the student, for it emphasizes the accumulation and recapitulation of highly specialized biomedical information

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while the goal of student teaching is more broad-development of the capability for independent and appropriate behavior as a clinician. Thus, the specialized physician may serve poorly as a role model despite the best of intentions. The pressure for academic advancement orients many such individuals to the laboratory, further blunting their clinical capabilities. Over the **years** their range of experience narrows, and their sensitivity to home and family environment and social and economic considerations atrophies as well.

### **Offer Training Opportunities in Under-served Areas**

“Present to students and residents positive experiences in service to the underserved.” The fifth and sixth points on the “do list” represent many opportunities, not many of which have been tested by research.

I believe that early exposure to underserved populations is helpful in preparing physicians to deal with such opportunities later in their professional lives. They seem to become more sensitive to the needs of these people, to have a better understanding of problems that they face, and to know better how to deal with those problems.

Traditional undergraduate medical education and even training at the primary care residency level at times do not address the skills that will be needed in isolated or semi-isolated areas. **Mauksch**<sup>56</sup> has written that it is impossible to overestimate the importance in the formative years of the medical career of programs designed to enhance health care for underserved people in a societal context.

People- and community-oriented medicine is-in a dramatic, although oversimplified sense-in competition with the organ- and disease-oriented medicine. The traditional premedical undergraduate curriculum encourages the students’ anticipation of the latter and omits if not sneers at any curriculum content directed at the former.

How does one construct a “people- and community-oriented” curriculum? Lurie and **Yergan**<sup>57</sup> describe some practical approaches: experience with several vulnerable population groups; familiarity with sociocultural issues affecting various population groups; encouragement to explore their own responses to patients who differ from themselves socially and culturally, or who have lifestyles or value systems incongruent with their own; skills needed to care effectively for patients in vulnerable population groups; knowledge about the unique epidemiologies and

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presentations of diseases in major population groups in the United States and groups specific to their geographical areas; familiarity with major health care financing programs and their effects on access to care and the practice of medicine; and, finally, development of “a sense of themselves in relation to society at large.”

**Melnick,**<sup>58</sup> in describing the rural and minority medicine programs at SECOM, outlines slightly different educational goals: awareness of the culture of poverty, of the problems caused by folk medicine, and of the differences of rural and urban attitudes toward illness; development of sharpened personal skills in diagnosis and triage; ability to work with minimal ancillary services and to treat patients in the face of high degrees of uncertainty.

SECOM has been fortunate over the years to have an excellent working relationship with several community health centers, migrant centers and county health units, in addition to its own clinical facilities. Every student at the institution is required to take at least 1 month of clerkship in a rural community or migrant health center or public health unit. These units are located throughout rural South Florida. Students are housed in the communities where the clinics are located. The curriculum for the

clerkships is designed by the department of general practice at the college, and the faculty from the college visit the sites on a regular basis, frequently bringing social workers, psychologists, or dietitians to the site to provide didactic lectures, not only for the students but for the physicians who are employed at the site. All physicians who qualify are granted clinical adjunct faculty appointment at the medical school. Faculty development staff orient the physicians at the training sites to the objectives of the curriculum and the methodology of evaluation. Periodically, faculty development is done on site at the various health centers.

Through an innovative program with the State of Florida, the legislature established the Medically Indigent Demonstration Project. This project involved the University of Miami, the University of Florida, and the SECOM. Each of the medical schools conducted its project in a slightly different fashion; however, the objective was generally to look at models of combining the education of students and residents with the issue of dealing with underserved populations. Fiscal shortfalls in the State budget caused funding to cease just as the programs had become fully operational. Once again, this is an example of the lack of commitment displayed and

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messages that are transmitted regarding the care of the underserved. This was obviously not a priority for our State government, which is facing a shortfall of some 500 physicians in rural areas within the next 3 years.

All of the programs discussed above should be helpful in giving students the incentive and confidence to choose to practice in an under-served area. Mandatory clinical training in a variety of underserved areas is beneficial in helping students choose a career in primary care in an underserved setting.

The work of **Denslow, et al.**,<sup>59</sup> indicating a high correlation between performance of rural clinical clerkships and rural preceptorships with choice of rural practice, has already been mentioned. In **Kindig's** recent *Health Affairs* article,<sup>60</sup> he indicates that 73.7 percent of physicians available in counties of less than 10,000 people in the State of Missouri were osteopathic physicians, many of whom had likely graduated from the Kirksville College of Osteopathic Medicine, and, therefore, the system that is described by **Denslow**. I do not believe that this is merely a coincidence. **Denslow, et al.**, stated that "the most important KCOM experience associated with a nonmetropolitan practice

was the rural clinical block ( $p \leq .0002$ ).<sup>61</sup> They indicated that even urban-reared physicians in nonprimary care who had participated in a rural program were twice as likely to locate in a rural area (19 percent) than nonparticipants (9 percent).

**Boufford** also alludes to the importance of clinical training in underserved areas and describes the Michigan State University College of Human Medicine Upper Peninsula program. Eight of 10 Upper Peninsula students selected residencies in primary care specialties, all in rural locations.

## Make Practice Among the Underserved More Attractive

"Make practice among the underserved more attractive." To accomplish this final point on the "do list," much must be altered.

The issues of financing, reimbursement, and personal income are probably the most important deterrents to physicians choosing to practice in these areas. At the last **HRSA** conference, **Johnson**<sup>61</sup> said: "If I were a realist, I would say that in rural

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health there is only one important item and that is reimbursement"-though later in his presentation he acknowledged that there are other issues. **Boufford**<sup>62</sup> has said that the problem of reimbursement for ambulatory care "must be addressed- if not through a national health insurance program emphasizing ambulatory primary care ... then through grant programs to heavily affected institutions." This reimbursement, she said, must include the direct and indirect costs of medical education, shifting the emphasis from acute care to ambulatory and long-term care.

While direct costs incurred in ambulatory settings that are owned and operated by teaching hospitals are subject to medical education reimbursement, no consideration is given for sites owned by medical schools that are not operated through academic health centers. Further, community-based sites such as community health centers, public health departments, migrant health centers and private **offices**, receive no reimbursement for the costs of medical education.

**Satcher**,<sup>63</sup> in his address at the National Seminar in Medical Education, sponsored by the Josiah **Macy**, Jr. Foundation, recognized this problem and suggested that:

Because the poor in our society **carry** the greatest burden of ill health' medical schools, as institutional role models, should be given incentives for serving disadvantaged populations via programs of training and education.

The problem of physician status is greatly magnified in the case of a primary care practice in many underserved areas. The connotation of a "Medicaid doctor" casts immediate disparagement on a physician who chooses to practice in an underserved area. There is always a conclusion that such physicians are either too inadequate to "make it" in more affluent neighborhoods or are questionably fraudulent and bilking the Medicaid system, taking advantage of the people for whom they care. This view seems to be shared by both professional and lay people. The implication is always that "better doctors practice in affluent areas and the others are relegated to underserved areas." In, addition to the poor financial rewards for providing such care, often care to the underserved is the most difficult to render. As Lurie and **Yergan**<sup>64</sup> state:

Common serious diseases often have different epidemiologic and **clinical** characteristics in vulnerable populations than in age- and sex-matched groups in the **United States** population as a whole.

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Examples include hypertension among blacks, tuberculosis and alcoholism among Native Americans, parasitic **disease** among Southeast Asian refugees, and diabetes and depression among Latinos. Discussion of at least this set of disease patterns should be **part** of a comprehensive curricular segment. **Material** on the role of poverty in the epidemiology of disease should also be included.

My own experience bears this out, in multiple situations. This problem is compounded by the fact that the population is frequently migratory, or at least mobile and unstable. Recently we did a random survey of patients who had not been seen in our **office** in a H-month period. Many had disconnected telephones, and many other phone numbers were incorrect. A substantial portion of our patients have no telephones. These people move frequently, which makes the teaching of continuity of care to students and residents virtually impossible.

Given such circumstances, it is little wonder that there is a shortage of physicians in underserved areas. As this relates to medical school and residency training, so this applies to the recruitment of faculty. It is at least as **difficult** to recruit faculty for these areas as it is to recruit providers of care.

Finally, the issue of geographic and professional isolation is one that must be dealt with by those who choose to go into primary care to underserved areas. As **Johnson**<sup>65</sup> states, "They expect their 'doc' to take care of all problems at all times." The complex of disadvantages and stressors and medical and social difficulties that have been described explain why we have a dearth of physicians practicing in rural and urban underserved areas.

## The Osteopathic "Success "

The purpose of utilizing force-field analysis in this discussion is its simplicity. To the extent that driving forces are increased or restraining forces are decreased, behavior moves in the desired direction. The converse is obviously true. The reasons for the success of osteopathic medicine in producing primary care physicians, frequently for the care of the underserved, become apparent. So, unfortunately, do the causes for the recent downturn in that trend and our concern for the future.

Part of the success was by design, but part was a result of circumstances in which the profession found itself. Osteopathic curriculum, by design, has been and is primary care oriented. The production of a

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well-rounded primary care doctor is a conscious objective of osteopathic predoctoral training. In this scheme, departments of general practice are pre-eminent in numbers and contact hours. There are few electives in this curriculum. All students are required to participate in an academic program dominated by primary care offerings and frequently including courses in such things as minority and rural medicine. As a derivative of this, osteopathic students have abundant general practice role models to emulate.

Osteopathic matriculants have predominantly “sensing” personality traits when measured by the MBTI, much like their allopathic family practice peers. This may more reflect admission committees choice of applicants with personalities similar to those of the committee than a conscious effort to affect outcomes. Nonetheless, the result is the same.

On the negative side, some of the success must be attributable to adversity. Again **Freymann**<sup>66</sup> addressed the issue: “Osteopathic medicine is not burdened by huge tertiary-care centers that blind staff and students to the real health care needs of the American people.”

Osteopathic medicine could not afford academic health centers and, until recently, its students and graduates were barred from training there. Predoctoral and postdoctoral clinical education was carried out in osteopathic hospitals, generally removed from the osteopathic medical schools. These hospitals are characteristically small community hospitals with volunteer faculty. Significant portions of the curriculum have been ambulatory based, in the offices of preceptors, usually general practitioners, but at times specialists. Even disciplines taught in the hospital were general in nature (general internal medicine, general pediatrics, etc.), with the general practitioner usually serving as the case manager and attending to his patient on a regular basis.

A rotating internship was, and continues to be, required of osteopathic graduates, thus delaying their entry into specialties for an additional year and giving them a better understanding of the role of the primary care physician. Specialty residencies were severely limited by the small number of teaching hospitals and available cases to train residents. Further, osteopathic training took place selectively in underserved areas, as a disproportionate number of **D.O.’s** had chosen to practice in small communities.



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This constellation of circumstances should leave little question as to why osteopathic medicine was successful at producing a disproportionate number of primary care physicians for underserved areas.

But that was the past. Will the osteopathic profession be able to continue to meet the challenge? Taksel, Jolly, and **Beran**<sup>67</sup> report that in **1987-88** U.S. medical schools received 20.4 percent of their revenue from Federal research and 38.5 percent from medical service. On the other hand, the American Association of Colleges of Osteopathic Medicine, in its 1988 Annual Statistical Report, reports that osteopathic colleges received only 6.5 percent of their revenue from all Federal sources and 8.6 percent from hospitals and clinics. A high price continues to be paid for ignoring the lure of research and academic health centers.

The forces have changed, and so have the outcomes. In 1980, **80** percent of **D.O.'s** designated themselves as general practitioners." During academic year 1989 to 1990, 55.5 percent of D.O. **graduates**<sup>69</sup> were training in primary care residency programs. Of that number, two thirds were in allopathic programs and only 25.1 percent were in general/family practice **programs**.<sup>70</sup> Additionally, 15 percent

directly entered general practice after the completion of a rotating **internship**.<sup>71</sup>

While this still represents a significant commitment to primary care, and especially to general/family practice, there is cause for concern. The forces have changed. Academic health centers and allopathic community teaching hospitals now welcome D.O. graduates into their residency programs. Practicing **D.O.'s** with appropriate credentials now can practice at virtually any hospital in the country; this is a factor in the weakening of the osteopathic hospital system and causing increasing strain on postgraduate training.

Along with acceptance for training and medical staff membership came another powerful opportunity: increased ability to enter higher paying specialties. The disproportionate reimbursement for nonprimary care specialties has effected its toll among D.O. graduates. Finally, the American Osteopathic Association has taken an official position that osteopathic physicians who complete an **Association-**approved internship may apply for recognition and approval of allopathic residency training. The changes in forces affecting osteopathic objectives are cause for concern throughout the profession.

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## Conclusions

Solutions to the problem of inadequate numbers of primary care physicians for the care of the underserved seem obvious. Simply stated: increase the driving forces, and weaken or eliminate the restraining forces. It is a form of behavioral modification. Whenever faced with a decision that might affect the desired outcome, choose in favor of primary care. It is a question of degree of commitment to that objective.

Uwe Reinhardt,<sup>72</sup> in his discussion of health insurance for the Nation's poor, describes the concept of "realistic policy parameters:"

**Wizened Washington veterans define a "viable policy option" as one that stands a healthy chance of being legislated and implemented. Such a policy must stay within what are known as "realistic policy parameters." A policy parameter in this context can be thought of as a cultural, political, economic, or administrative constraint so immovable within the time frame of the proposed policy as to approximate a state of nature.**

Reinhardt has defined our dilemma. It is not so much that we do not know what needs to be done; it is that the "policy parameters" may be immovable. One needs

only to look at the source of medical school revenue to recognize that there will be no stampede to radically modify medical school curricula or structure. The restraints, or in Reinhardt's term, "policy parameters," are, under current and foreseeable conditions, immovable.

**Satcher,<sup>73</sup>** in his discussion of moving the location of clinical education, says that:

the problem we confront is not unawareness of the need for change; it is to define and overcome the **barriers** to change. . . . **The flow of money can** explain virtually every barrier put forth; where the flow of money has changed, medical education has also **changed**.

I contend that if the direction of the flow of money would once again change, so would the course of medical education, and, most assuredly, the delivery of service to the underserved.

By no means should this be construed to suggest that a change in the flow of money would be a panacea for all of the problems facing primary care for the underserved. Certainly, we have examined many other driving and restraining forces that affect this problem. However, no other single issue is as dominant in either force field.

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Medical schools that make bold curricular attempts to affect the production of primary care physicians should not be penalized for their inability to fund adequately their ambulatory training sites and **ambulatory**-based faculty. Graduates who choose to practice primary care in underserved areas should not face inability to collect a reasonable fee for their services. If we are sincerely concerned with the production of primary care physicians for underserved areas, we will find a way to assure the financial support of institutions that demonstrate an ability and a willingness to cooperate. When we recognized the need for biomedical research in this country, we designed a system that supported that outcome. We have a similar problem that must be addressed, perhaps in the same way.

With assurance of a steady funding source, someone might boldly attempt the **6-year** general curriculum proposed by Ebert and Ginsberg.” No one, not a medical school nor a group of students, will subject themselves to such an experiment without strong incentives and assurances.

It might be unrealistic to expect all medical schools to design curricula and create

environments conducive to the production of primary care physicians. Perhaps only certain institutions would specialize in this area. If this is a true national priority, incentives can be designed for both the institutions and the students who attend them.

**Mauksch**<sup>75</sup> has stated that:

Medical students **learn** early a simple formula of educational power: “What is required is more important **than** what is optional, what has **many** hours in the **curriculum** should influence me more than anything with fewer hours, and to survive medical school means to navigate between competing pressures.”

Mauksch is correct. We influence outcomes by increasing or decreasing forces on institutions and individuals that reflect our priorities. It is not that we are unaware of the obstacles facing the production of primary care physicians for underserved areas. Nor are we uninformed as to the reforms that are necessary to achieve these ends. What is at question is our commitment.

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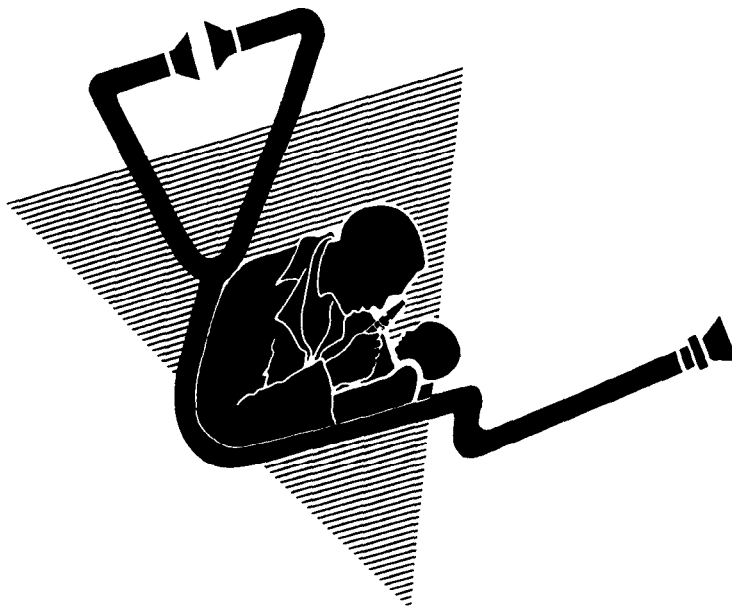
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## **Workshop III:**

# **Enhancing the Linkages Between Medical Education and Community Settings for the Delivery of Primary Care**





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# Conference Report of Workshop III

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## Problem Statement

Access to primary health care is a major problem in America, especially in underserved communities. In fact, at **this** Conference Dr. Sullivan indicated we are faced with a primary care crisis. Medical education alone cannot solve this problem, but it can contribute to the solution by developing linkages with service institutions in underserved communities. These linkages are important because they can provide exciting educational models for primary care education, including exposure of the student to the continuum of care, and because they can facilitate the recruitment and retention of physicians for underserved communities.

Improving access to primary care for underserved populations requires, among other things, the education and training of primary care physicians along with other health professionals and support personnel. These practitioners must be sensitive to the cultural, social, economic, and clinical needs of under-served communities. For our medical schools this requires targeted activities related to (1) the recruitment of medical students, (2) curricular reform, and (3) research in the primary care setting. These items are the subjects of the other workshops in this Conference.

The successful fulfillment of the goal of training primary care physicians for underserved communities also requires attention to the linkages between the academic and service setting. Linkages may be at program, departmental, and/or institutional levels. They may -be isolated events or part of more complicated networks-extending to statewide or regional systems. Our medical schools and our communities already have considerable experience with linkage development which demonstrates its importance and potential. This experience also helps us to identify issues of concern and barriers to further linkage development. It also allows us to make recommendations for action to the Federal Government, State governments, academic institutions, service settings, and accrediting bodies.

Changes in both the public and private financing of health care, such as increased reliance on managed health care programs, will increase the need for linkages between academic medical centers and community providers. Therefore, there is a unique window of opportunity to establish educational and manpower training relationships between schools of medicine and health providers in underserved rural and urban areas.



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## Issue #1: Federal Policy

Federal health manpower policy has not been systematically updated since the early 1970's. Its evolution during the past 15 years has resulted in some encouragement from HRSA for selected programs in support of university/community linkages, while also providing disincentives to these same linkages through the reimbursement policies of other agencies such as HCFA.

### Barriers

Some of the barriers to the development of linkages between the academic medical centers and the community that derive from Federal policies include:

- **BHCDA's** policies related to the financing of **CHCs**: These policies, which are productivity oriented, based on the number of patient encounters per provider, penalize the community health center that wishes to strengthen the quality of its clinical service through linkages with the academic sector as these very linkages serve to decrease the productivity of the center and, therefore, its reimbursement from **BHCDA**.
- **HCFA's** policies with respect to the direct and indirect support of graduate medical education: These policies are under constant revision. HCFA financing has the potential to provide one of the few sources of stable support of graduate medical education. The constant revision of their policies along with the negative impact of these policies on the funding of graduate medical education in the ambulatory setting serves to negate other Federal efforts to link the academic sector with the community.
- **HRSA's** inability to provide long-term and stable financing of medical education: This inability to support medical education in community settings and to support primary care graduate medical education derives from statutory constraints on the allocation of Federal funds in support of their activities. Most health manpower authorities must be reauthorized every 3 years.
- The lack of communication between Federal agencies and between programs within individual agencies: This lack of communication results in confusing and contradictory messages to those interested in linking the academic

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medical center and the community. This provides special challenges to HRSA.

## **Issue #2: State Policy**

State policies vary greatly with respect to health manpower development and with respect to the support of medical education in community settings. However, State governments must not be overlooked as it has been shown that several States have been willing to play a major role in bridging the academic medical center with community settings.

Although some States have no policies in these arenas others have comprehensive policies that include the financing of primary care residency training, the **capitation** of medical students, the support of statewide networks of **AHECs**, the recruitment of medical students likely to practice primary care in underserved areas, the support of offices of rural health, the subsidization of a new medical practice set up in an underserved community, etc.

## **Issue #3: Academic Medical Centers**

In many cases academic medical center policy does not recognize the role of the institution in health manpower development to increase the supply of primary care physicians for underserved populations.

### **Barriers**

Some of the barriers to the development of linkages between the academic medical center and the community derive from the policies and values of the academic medical center. This includes the traditional institutional mission statement, which is based upon the paradigm of a teaching hospital, that places little value on medical education in the community setting. This paradigm has led to the development of objectives that have affected the following:

- Admissions policies that relate more to the bioscientific orientation of the applicant than to his or her potential for practice in underserved communities.
- Admissions policies that place lower value on the selection of students who demonstrate sensitivity to the cultural

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uniqueness and health needs of minority underserved populations.

- Curricula that value inpatient tertiary care settings over ambulatory settings.
- Faculty reward systems that place low value upon role modeling in primary care, on clinical teaching, on **off-campus** faculty, on collaboration between primary care disciplines, and on the recruitment of minority faculty as role models.
- The development of two-tiered systems for faculty and, in some cases, for trainees.
- Graduate medical education policies that allocate the financing of residency positions according to the service needs of the teaching hospital rather than according to the health manpower needs of the community. Additionally, such policies discriminate against the financing of residency training in community-based ambulatory settings.
- Faculty concerns that the community setting is a “bottomless pit” of service needs that will overwhelm the academic program.

## **Issue #4: Community Service Settings**

Community settings have not always recognized the importance of linkages with the academic setting for the quality of care in their settings or for the effect of such linkages on health manpower development to serve their constituencies.

### **Barriers**

Some of the barriers that derive **from** the perspectives of the community service setting that hamper the development of linkages between the academic and service sector include:

- The fear of academic take-over of the community setting.
- The concern for patients being treated as “teaching material” rather than as people.
- The cost and financing of education in the community setting, including the cost of lost productivity that results from the insertion of the educational program in the community setting.

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## Issue #5: Linkage Development

A central locus for linkage development is rarely perceived as a way to benefit both the academic and service sectors, although examples of the importance of such loci now exist in several States. Therefore, these sectors often do not work together to stimulate the public support and stable funding that is potentially available to them.

### Barriers

Some of the barriers that derive from the lack of attention to the development of systems to stimulate, organize, and maintain bridges between the academic and service sectors include:

- The paralyzing effect of the fear of “town-gown” issues with no mechanisms to help either sector work through their concerns in an orderly and continuing manner.
- The lack of defined central control of operations and of resources to nurture the linkage of the academic and service sectors as a partnership to serve the agendas of both sectors.
- The lack of stable support for various infrastructure elements of the

academic/service interface, including the support of (1) logistics such as travel, housing, and family considerations; (2) communication, computer, and educational technologies; and (3) supplies, equipment, etc.

## Issue #6: Accreditation

Accreditation policies affecting academic medical centers (**LCME**) and residency programs (**RRCs**) do not specifically encourage linkage development and often discourage or prevent it.

## Recommended Actions

- In view of the worsening primary care crisis identified at this Conference by the Secretary, the Federal Government should develop a more explicit health manpower development policy to include the elimination of geographic and specialty maldistribution with an emphasis on primary care for underserved communities.

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- The Secretary should declare that programs which train primary care manpower for underserved communities are a national resource and should take the lead in developing a method of long-term stable financing of primary care education with attention to incentives for academic linkages with educationally sound programs in underserved communities. This should also include support for activities to increase the recruitment of students from underserved communities and the recruitment of faculty from minority backgrounds.
  - The Federal Government should develop a coordinating mechanism, perhaps through HRSA, to bring together all appropriate agencies on a regular basis to assume a coordinated approach to health manpower development, the financing of medical education, and the support of activities at the academic/community interface level.
  - The Federal Government should also develop a mechanism for bringing together all other “players” from the academic, service, and professional sectors to review and modify health manpower and health-profession education policies. One mechanism should be a special forum for State legislators, State legislative staffs, and representatives of State governments in order to develop complementary strategies.
  - The Federal Government should assure that the policies of HCFA, Medicaid, and BHCDCA contribute positively to the support of the linkage between the academic medical center and the community.
  - The Secretary should approach the appropriate professional societies, the **AAMC**, and the American Association of Colleges of Osteopathic Medicine to request a concise statement of both the crisis in primary care and the specific plans to promote community-based primary care education at the undergraduate and graduate medical education levels.
  - As the NHSC is being redeveloped, a role for NHSC providers as educators and as role models in primary care should receive encouragement and support through linkages established with academic medical centers.
  - Modification of **HCFA:Intermediary** Letter 372. Preliminary revised
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regulations are pending that will support ambulatory-based teaching. These should be implemented as soon as possible.

- Title VII reauthorization should include marked increases in predoctoral funding for primary care education with the expectation that this will include more community-based education of medical students.
- Long-term and stable financing for an expanded national AHEC program consistent with the rural and urban health manpower needs of the 1990's should be developed with the reauthorization of Title VII. Funding should be adequate to include all schools of medicine and, as a national resource, projects should not be limited to funding for a limited time period so long as they continue to meet national objectives at the academic/ service interface.
- Financial incentives, e.g., loan forgiveness and scholarships, should be developed for students selecting primary care and double incentives should be available for those selecting work in underserved communities or with underserved populations.
- State governments should develop health manpower policies and support medical education to meet those policies.
- States should develop councils of graduate medical education to assist with the support of residency programs needed to meet the manpower needs of the State.
- Academic medical centers should reallocate resources to parallel the new manpower priorities so as to support ambulatory and community-based primary care education.
- Academic medical centers should develop external advisory committees that represent the community constituencies of the school.
- Faculty development programs should assist university-based faculty in their understanding of the way to work with an ever-changing community.
- Community service settings serving as educational sites should develop programs to assist staff and board members to understand the way to work with the academic medical center.

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- Technical assistance and funding should be provided by the academic medical center to primary care sites for the preparation of an educationally-sound environment. Some cost sharing is appropriated from the service agency.
  - Accrediting bodies should measure the progress of schools of medicine against the individual school's objectives for the education of physicians to meet the needs of the school's local and regional communities.
  - Residency review committees should encourage experimentation of educationally sound linkages with community settings for primary care and ambulatory education, and periodically revise their requirements to allow a broadened implementation of such linkages.

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## Introduction to the Background Papers for Workshop III

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The four background papers for this workshop include one paper, which reviews the barriers to achieving linkages between medical education and community settings, and three papers describing specific examples of successful linkages.

Dr. Jack M. Colwill's paper, "***Barriers to an Enhanced Linkage Between Education and Delivery of Primary Care***," reviews the history of educational initiatives from the 1950's to current times. He suggests that during the past decade, the focus upon education of physicians to improve access to care for the underserved has diminished. A rapidly declining interest in primary care careers among those entering medical school and those graduating is a major concern. Currently only 18 percent of first year residency positions are in family practice and primary care tracks in internal medicine and pediatrics.

The paper addresses the assumption that linkage of primary care education to service delivery is important as a means of improving access to care for the **under-**served. Dr. Colwill specifies three reasons used to justify community-based education: the uniqueness of the educational experiences in these settings; the increased likelihood that graduates will serve similar populations as primary physicians; and that

services will be provided for these populations in association with education. His review of the evidence in the literature leads him to conclude that, despite a lack of randomized educational trials, evidence provides a strong rationale for **community-**based medical education at both the undergraduate and graduate levels. Dr. Colwill indicates that community-based education did not expand during the 1980's. Consequently, he explores medical school, financial, local, and logistical barriers to expanded community-based education.

Cultural barriers reflective of the different values of the medical school and the community are described. Dr. Colwill suggests that these cultural barriers plus the lack of more explicit definition of the products of medical education have lead medical schools to have a limited commitment to extend programs into community settings. If the goal of undergraduate education is simply to prepare the graduate for residency training, then there is little motivation for community-based education. On the other hand, if the goal is to prepare 50 percent of graduates for primary care then there is motivation for community-based education.

The second set of barriers are financial. Dr. Colwill reiterates points made in many



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of the other background papers regarding the disincentives for ambulatory and community-based education. In addition to unfavorable reimbursement practices, primary care specialties must be subsidized because their practices are generally not sufficient to cover all educational costs. Community-based education adds to administrative costs. Service generated income may be less at community sites due to educational activities and reduced capabilities of the underserved to pay for care.

Local and logistical barriers are identified as the third set of barriers which must be overcome in expanding community-based education. Those delineated in the paper include weak infrastructures in the health care system serving the underserved, the enormity of the problems in these populations, interpersonal and interinstitutional conflicts, issues of control, and logistical concerns such as distance, travel time, and faculty limitations.

Dr. Colwill concludes that all of these barriers are surmountable if the medical school has clearly defined objectives which include a commitment that graduates serve underserved populations.

The first of the papers describing examples of educational linkages focuses on rural experiences. Dr. William O. **McMillan**, Jr. reviews numerous examples of rural programs in his paper, "*The Medical Student-Patient Relationship in Rural Areas: Models to Overcome the Dual Access Problem.*" Prior to examining five different approaches to addressing rural issues, he discusses aspects of the current environment that affect educational initiatives. These include an understanding of what is rural; the need for primary care in rural areas; regionalization of the delivery system and its implications for regionalized educational approaches; and shifts to ambulatory care teaching.

All five current examples Dr. **McMillan** examines have their origins in educational innovations of the 1970's. The North Carolina **AHEC** program, initiated in 1972, links the university and community in a statewide effort. The State system uses a regionalized approach which provides decentralized structures for meeting the needs of small, rural communities through linkages with the rich academic resources of the State and the four medical schools in the State.

The four-state program, WAMI (Washington, Alaska, Montana, and Idaho) links

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community and academic resources in quite a different manner-using a single medical school to meet the needs of four essentially rural States. The educational approach combines education in the individual States and at the medical school with a clinical component based in 17 community clinical units located throughout the four-State region.

The Minnesota Rural Physician Associate Program was initiated in 1970 in response to the State Legislature's requiring the medical school to address the acute shortage of physicians in rural areas of the State. The program developed in response to this mandate involves intense clinical experience (9 to 12 months in duration) with rural practicing physicians. The State's rural counties all have acceptable general physician population ratios.

A decentralized curricular track in ambulatory-based primary care was established by the University of New Mexico (Primary Care Curriculum). It involves primary care emphasis in both the basic and clinical sciences; establishment of a relationship for each medical student with a primary care physician as a preceptor and role model; and community subinternships with that preceptor.

The final rural example is the West Virginia AHEC Program which involves a two-stage effort. The first was initiated in 1972 as part of the original AHEC program and involved the development of a remote site clinical campus for the West Virginia University medical school. More recent activities have centered on the development of a statewide approach which builds on the State's existing system of rural health centers in the predominantly rural counties of the State. The consolidation of the State's three medical schools into a single university system is the basis for current efforts to apply techniques of medical education to address West Virginia's chronic rural underservice problems.

***"Expansion of the Providence Family Practice Program to Sea Mar Community Health Center: A Linkage Between Graduate Medical Education and an Urban Community Health Center,"*** describes the testing of the concept of family practice residency training based in a community health center. The authors, Drs. Ramoncita R. Maestas and Richard H. Layton, review the history of this program which developed as an outgrowth of the relationship between a hospital-based residency program and a community health center which was used for rotations by that program.

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This federally supported program is described in some detail by the authors who have primary responsibilities for both the hospital-based and community-based residency programs. Educational, financial, and organizational benefits to the community health center, the hospital-based residency program, and the hospital are reviewed.

Benefits to the community health center include enhancement of recruitment and retention of providers, improvements in the educational component of the center, student teaching, increased productivity as a result of resident services, expansion of caseloads (particularly in obstetrics), and improved staff morale. For the residency program, the benefits include increases in the number of family practice graduates, in the patient base, in available facilities, faculty resources from the health center, and additional financial support for residents and administrative costs. Similar benefits are cited for the hospital as well as exposure to primary care and cultural issues for other hospital residents, additional patients **from** the community health centers, good publicity, and assisting in the hospital's mission to serve the poor and elderly.

Drs. Maestas and Layton recognize that replication of the program may encounter some barriers. Among them, the authors identify potential incompatibilities between the goals of community health centers and other institutions; inadequacy of staff and providers; issues of administration, faculty, and board support; patient volume; specialty and backup support; and logistical considerations.

Dr. James W. Hampton's paper, "*Linking Primary Health Care Delivery to American Indians/Alaska Natives*;" provides a historical perspective on the cultural barriers and health care needs of these populations in both urban and rural settings, and more detailed information about the efforts and activities of the AAIP to find solutions to these health problems.

The health of American Indians/Alaska Natives continues to be poor when compared to the general population. The access of this indigenous population group to health care today can be divided between rural and urban. The rural health care (48 percent) is provided by the IHS. The urban health care (52 percent) is provided by intertribal clinics "struggling to provide triage services to a growing population of people."

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American Indian physicians who are considered “underrepresented” in the medical profession responded to a survey that 40 percent are in primary care specialties. The AAIP, founded in 1971 by 14 physicians, has grown to an organization of 200 members.

The Association linked medical education to primary health care delivery by recruiting students who grew up in low-income families in rural areas and who faced

special cultural problems when seeking medical careers. The Association promoted admission and retention of these students and encouraged their devotion to serve their special population. Yet, of the 900 physicians assigned to the IHS, only 3 percent are identified as American Indians/Alaska Natives. The author provides more detailed information on the historical background of this problem and some possible solutions in his paper.



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# Barriers to an Enhanced Linkage Between Education and Delivery of Primary Care

Jack M. Colwill, M.D., University of Missouri

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## Introduction

Care for the underserved has been a problem for the United States throughout its history. However, only in recent decades has medical education been viewed as one of many approaches to address the health problems of the underserved.

During the latter part of the 19th century and much of this century, health care was provided by a two-tiered system—one for those with financial resources and another for the medically indigent. The urban indigent sought care through well-known city hospital systems, and the rural indigent obtained their care primarily from physicians who donated their services.

Beginning in the **1950's**, national concern about access to health care led to a series of patient care and educational initiatives. Hill Burton legislation enabled many rural communities to construct needed hospital beds. The passage of Medicare and Medicaid legislation in **1965** led to high hopes that the Nation would eliminate its two-tiered system of health care.

However, even with improved financial access to care, the unique health care needs of the urban and rural underserved persisted. The Johnson Administration

developed a series of direct primary care service programs beginning with OEO Neighborhood Health Centers, which ultimately evolved into **C/MHCs** programs. The parallel development of the NHSC provided the primary physicians needed to staff these programs as well as to serve in other shortage areas.

During this same period, initiatives for the education of physicians, the focus of this Conference, have been a central strategy in attempts to provide health care for the underserved. In the **1950's** and **1960's**, Congress and State legislatures were preoccupied with what they perceived as an overall shortage of physicians. Broad expansion of medical class size was embraced by Government as the solution to problems of physician distribution. With State and national governmental support, medical schools more than doubled class size. This global approach, however, did not address specific physician manpower problems. Indeed, as predicted by **Rashi Fein**, the doubling of medical class size resulted in rapidly increasing numbers of physicians, escalating health care costs, and increasing concerns about “over doctoring.” However, in the absence of specific incentives, the problems of geographic and specialty distribution and care for the underserved persisted.

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The impact of specialization within American medicine was also being felt in the late 1950's and 1960's. Following World War II, almost all medical school graduates began entering specialty training rather than general practice following internship. As might be expected, increasing specialization led to a dramatic decline in the number of general practitioners—from 90,000 in the 1930's to 50,000 by 1970.

General practitioners had been broadly distributed across the population. Consequently, the decline in the number of general practitioners was also associated with a marked reduction in the availability of physicians in rural areas. The acute shortage of physicians in rural areas, the increasing dilemmas in providing access to care for the urban underserved, and the general recognition that the population as a whole was having difficulty identifying primary physicians led to reports of multiple commissions in 1966, which identified the need to educate primary **physicians.**<sup>2,3,4</sup> These reports provided the final impetus for the establishment of the new specialty of family practice in 1969 and helped obtain the necessary State and Federal funding to initiate residency programs. The number of family practice residencies grew tremendously in the 1970's

and has been followed in the 1980's by primary care residency tracks in internal medicine and pediatrics.

Two other important educational initiatives for physician manpower, the NHSC Scholarship Program and the AHEC Program, were developed during the early 1970's. The scholarship program provided much needed financial assistance to medical students while guaranteeing a source of primary physicians for shortage areas as participants in the NHSC. The AHEC funded efforts to decentralize medical education and emphasize primary care education. The underlying rationale for the AHEC program has been that decentralization of medical education to the community setting will result in a higher likelihood that trainees will select primary care careers in underserved settings.

Now after several decades of effort, one would have hoped that much progress would have been made in the education of physicians to improve access to care for the underserved. However, the situation over the past decade may actually have worsened. The problems of access to health care continue to have social, economic, and educational determinants. Today a higher percentage of the population is below the poverty level. The urban

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crisis is complicated by homelessness, drug addiction, and crime. Health care for the urban underserved is at crisis proportions and that of the rural underserved is scarcely better with a collapsing health care infrastructure in many rural areas. The proportion of the population without health insurance is increasing with 37 million uninsured. Many perceive that the **two-tiered** health care system is becoming reestablished.

Problems of access to physician care appear to be increasing, both for Medicaid recipients and the uninsured. The NHSC is a fraction of its former self, and the NHSC Scholarship Program has virtually disappeared. Consequently, the most underserved face an even greater shortage of physician services. A new program of loan forgiveness for practice by physicians in shortage areas is, thus far, too small to have a significant impact. The number of family physicians, and the rural-urban discrepancy of physician distribution is not significantly improving.<sup>5</sup> <sup>6</sup> The demand for primary physicians by managed systems of care is rapidly escalating.

In medical education, despite the major efforts to prepare primary physicians, only about 18 percent of first-year residency positions are in family practice and specific

primary care tracks in internal medicine and **pediatrics**.<sup>7</sup><sup>8</sup> Now the shortage of residency positions in primary care is compounded by a rapidly declining interest in primary care careers, both among medical school graduates and those who are entering medical school.<sup>9</sup> Interest in careers in the primary care specialties of family practice, general internal medicine, and general pediatrics has declined from 36 percent of graduating medical students in 1982 to 22.5 percent in 1989 (AAMC Graduation Questionnaire). This declining interest suggests a further decrease in the proportion of primary physicians in the future.

Many argue that the entire population is underserved for primary care **services**.<sup>9</sup> However, for this Conference, I shall define the underserved as those segments of our population that have the least access to available health care—those who are medically indigent, those who are underserved as a result of social and cultural issues, and those who are geographically under-served.

A decade ago, in 1980, the January/February issue of **Public Health Reports** was devoted to the topic of “Health Professions Education and the **Under-served**.” Progress statements were provided concerning the NHSC Scholarship Program,



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further development of the NHSC, and cooperation of medical education with the Corps. Now, in 1990, we again address medical education as a means of improving access to care for the underserved.

Hans Mauksch, Ph.D., in the 1980 *Public Health Reports* addressed a most difficult question, "Can Future Physicians Be Educated to Care for Underserved People?"<sup>10</sup> With regret, he made the observation that "programs designed to improve the care of underserved groups in the population do not express the values nor the structures of mainstream health care services or of professional education." He identified three social factors that mitigated against long-term success. First, he pointed out that the American tradition of the work ethic and the high value placed upon control of one's own fate provides a persistent belief that those who are needy and socially disadvantaged are somehow morally and socially less worthy. Second, he noted that emphasis on disease has led to a preoccupation with biological disease, thereby permitting social and cultural issues in health "to recede into apparent irrelevance." However, these issues as well as economic issues are of fundamental importance in providing access to care. Thirdly, he noted that by tradition medical

care is sought by the consumer, then initiated and delivered by the provider.

The 1980's have done little to modify the influence of these values! These values, so prevalent in society, also prevail in the medical community among medical school faculty and medical students. Further, social concerns, so much a part of American society in the 1960's and early 1970's, were much less prominent in the 1980's. These reduced social concerns are also reflected in decreased Federal support for social programs.

Mauksch's observations reflect the perspective of a sociologist. Eli Ginsberg provided the practical perspective of an economist as he succinctly addressed the topic of education of generalists to provide access to care. He stated:

... any effort to increase the number and proportion of generalists in medicine is problematic in the absence of antecedent and concurrent transformations in the structure and functioning of academic health centers and in the financing of medical care, and of major long-lasting changes in the delivery of health care."

Problems of access to care have improved little, if any, during the decade despite major efforts within portions of medical

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education to prepare physicians to serve the underserved. The issues are broader than medical education, but, nevertheless, medical education is part of the solution.

It is against this background that I have been asked to discuss specific barriers to enhancing linkages between medical education and the delivery of primary care at the community setting. Medical care for the underserved begins with the availability of primary care services. Access to the system is fundamental to the provision of care for **the** underserved.

While all three components of medical education, undergraduate, graduate, and continuing medical education, are relevant to education of physicians serving the underserved, I focus on undergraduate and graduate medical education.

## **Purposes of Education/ Services Linkages**

The idea expressed in the title of my topic, “Barriers to an Enhanced Linkage Between Education and Delivery of Primary Care,” contains implicit assumptions. The first assumption is that linkage of primary care education to service delivery is important as

a means of improving access to care for the underserved. Why otherwise would this topic be addressed? (I suspect, however, that many will question whether this linkage actually improves access to care.) Secondly, the title implies that barriers do exist to implementation of increased education in a primary care delivery setting. (About this there can be no disagreement!) While much education for primary care is based in the outpatient department of the teaching hospital, I shall focus on community-based education linked with primary care delivery.

**Those** advocating community-based education suggest three major reasons for implementing these educational programs. First, this education offers unique educational experiences not available at the tertiary care center. Secondly, it increases the likelihood that graduates will serve similar populations as primary physicians. Thirdly, primary care education located in areas of manpower shortage directly provides needed services for underserved populations.

Those advocating community-based education, as a means of providing unique educational experiences, frequently refer to Kerr White’s article, which demonstrated that among 1,000 individuals, in a given

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month, 750 can be expected to become ill, 250 to see a physician, 9 to be hospitalized, and 1 to be hospitalized in a university hospital.<sup>12</sup> Despite this reality, the university hospital remains the site for most undergraduate and graduate medical education. Today, with the expansion of managed health care and the implementation of prospective payment (**DRG's**), the patient population at a university tertiary care referral center is even more highly selected than in the **past**.<sup>13</sup> Advocates for community-based primary care education point out that the tertiary care center cannot provide an adequately broad educational experience. They say that the community setting is ideally suited to address the breadth of common clinical problems in primary care and in community medicine. Advocates also suggest that **community**-based education provides unique opportunities to learn about medical problems of shortage areas and opportunities to learn issues of cross-cultural medicine. Finally, education in that setting demonstrates the central role of primary care services in U.S. health care.

These arguments are logical and valid. They have been discussed in many conferences and papers and are a stimulus for increasing medical education in the ambulatory **setting**.<sup>14 15</sup> They are also

arguments for primary care education at the community level. They are the fundamental components of two new initiatives, one by The Robert Wood Johnson Foundation and the other by the W.K. Kellogg Foundation, which are designed to make major modifications in undergraduate medical education.

The second argument for community-based education lies in the expectation that education at the community level will increase the likelihood that graduates will select primary care specialties and that they will practice in similar settings. Proponents recite numerous studies demonstrating associations between community-based education and subsequent practice in similar settings. Students who take elective preceptorships are more likely to select a career in family practice and to practice in rural **settings**.<sup>16 17</sup> Graduates of the primary care residency at the Montefiore inner-city residency program are more likely to practice in the inner **city**.<sup>18</sup> Graduates of the University of Minnesota rural year have higher rates of rural **practice**.<sup>19</sup> Graduates of the Upper Peninsula Program of Michigan State have increased numbers of rural practitioners." Higher percentages of graduates of the family practice program at the University of Missouri-Columbia, with its emphasis on rural practice sites, have

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entered rural practice. WAMI graduates at the University of Washington are more likely to enter primary care and to practice in rural **settings**,<sup>21</sup> and North Carolina, with its well-developed **AHEC** program, has been far more successful in placing physicians in nonmetropolitan practice than the country as a whole.”

These data support the thesis that medical student participants in community-based education are more likely to select primary care specialties and to practice in **underserved** settings than those who do not. However, rigorously controlled trials in education comparable to those applied to the treatment of disease do not exist. The possibility exists that these outcomes can be explained by self-selection of the program by trainees who already were committed to such careers.

Undoubtedly, self-selection has a role in explaining the outcomes of **community-based** programs. Multiple studies demonstrate that physicians from rural backgrounds are more likely to select family practice as a specialty and to practice in rural **settings**.<sup>23 24</sup> Graduates of the **Montefiore** program are more likely to come from minority groups who are more likely to practice in underserved minority **settings**.<sup>20</sup>

Some, recognizing the importance of **self-selection**, suggest that the process of undergraduate medical education itself has little effect on specialty selection. Funkenstein concluded from his longitudinal studies of Harvard medical students and from samplings of students at other medical schools that specialty selection is not influenced by the process of medical **education**.<sup>25</sup> He felt that specialty selection was a reflection of the orientations and value systems of the individual plus the social and economic milieu of the time. He noted that medical students with common orientations and values tended to select specialties in predicted specialty areas. However, during different eras, many would select careers in alternative specialties. Further, he noted that these changes in specialty preference appeared to occur simultaneously both among graduating medical students and those entering medical school. Therefore, he thought the changes in specialty preference were independent of the educational process.

Indeed, broad societal forces appear to influence selection of family practice as a specialty. In the early **1970's**, Funkenstein noted that many students whom he had classified as having a “bioscientific” orientation entered a primary care specialty rather than a predicted subspecialty career.

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At that time he also noted that interest in primary care was also high among medical school matriculants. In contrast, during the **1980's**, interest in family practice declined among medical school matriculants from 37 percent in 1978 to 16 percent in 1987 (AAMC MCAT Questionnaire), and was only 10 percent in 1988 (AAMC Matriculation Questionnaire). This decline parallels the fall in preference for family practice among graduating medical students from 15.5 percent in 1982 to 11.7 percent of graduates in 1989 (AAMC Graduation Questionnaire).

While the foregoing argues that forces outside medical education influence specialty choice, it is hard to deny that undergraduate medical education also has a major effect on specialty choice. One piece of evidence is the precipitous decline in students' career interest in family practice as they proceed through medical school. Babbott showed that preference for a career in family practice among a national cohort of students dropped from 26 percent of entering students in 1983 to 13.5 percent at graduation in **1987**.<sup>26</sup> At the same time, student interest in internal medicine and its subspecialties increased dramatically from 14 percent on admission to 25 percent at graduation. The differing institutional milieu for each of the specialties, i.e.,

curricular time, number of faculty, perceived importance of the specialty, role models, etc., has provided student experiences over the years that have fostered selection of internal medicine and its subspecialties.

Further, the remarkable differences among medical schools in percentage of graduates entering family practice is difficult to explain solely on the basis of pre-selection. The percentage of graduates selecting family practice from U.S. medical schools over an **8-year** period varied from 1.5 percent for one medical school to a high of 37 percent at one community-based **school**.<sup>27</sup> The 50 medical schools with the highest percentage of graduates entering family practice all have departments of family practice. Only 2 of the 20 medical schools with the lowest percentage of graduates entering family practice have departments of family **medicine**.<sup>27</sup> The duration of curricular time in family practice has been found in one study to be the best predictor of curricular impact upon specialty **selection**.<sup>28</sup> Those medical schools that are more community-based tend to have the largest percentages of graduates entering family practice. These include Eastern Carolina Medical School, Southern Illinois University, Oral Roberts Medical

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School, Wright State, and Duluth of the University of **Minnesota**.<sup>27</sup>

Based upon available evidence, I would hypothesize that in specialty selection, students consciously or subconsciously attempt to match their own personal capabilities and values to their perceptions of the specialty. Student perceptions of a specialty are probably primarily influenced by the medical educational experience. The low visibility of primary care and the low value placed on primary care by the tertiary care center is communicated to medical students in many ways during the educational process.

The value systems of students, which also influence specialty selection, seem to be influenced by the social and economic milieu of the time, as postulated by Funkenstein. During the **1970's**, the high rate of interest in primary care careers among medical school graduates was a reflection of the times and seemed to occur despite the specializing influences of the tertiary care oriented educational process. Now, in a different era, interest in primary care is declining. Lifestyle issues and financial rewards appear to be increasingly important for the "me **generation**."<sup>7 29 30</sup> In 1988, matriculating medical students were more interested in orthopedics than in

family practice or internal medicine (AAMC Matriculation Questionnaire).

Even in today's milieu of declining primary care interest, it is likely that the proportion of graduates entering primary care can be increased by a combined program of applicant selection" and an educational program that reinforces the applicant's primary care orientation. The Jefferson Medical College has been highly successful in placing graduates into family practice and into rural shortage areas. Their program combines selection of medical students from rural backgrounds who have an interest in family practice, followed by reinforcement of these interests through a curricular program during medical school." Likewise, the WAMI program at the University of Washington has had success as a result of selective admissions and community-based educational **experiences**.<sup>21</sup>

Graduate medical education also has major implications for service to the underserved. The specialty chosen, as well as the site of education, are major predictors of practice locations. Family physicians are several times more likely than those in aggregate in other specialties to serve rural populations. Residency education at the community level as found in **AHEC** Programs, WAMI, etc., result in significant numbers of graduates

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practicing in the region-many of which have been underserved.

The third argument for community-based education is that trainees provide needed patient care services. Faculty for these training programs can be more easily recruited to underserved settings while recruitment of practitioners to underserved settings may be difficult. These arguments, advocated primarily by individuals in shortage areas, have weak educational justification. Quality must be a prime responsibility of all medical educational programs. Service is a necessary component of education but not the primary reason for the educational program. Location of education in these settings is highly appropriate, but only when quality is high.

Thus, appropriate rationales exist for community-based medical education both at the undergraduate and the graduate levels, despite the fact that the quality of evidence is weakened by the lack of randomized educational trials. Primary care education in the community setting provides unique learning experiences in a milieu conducive to selecting primary care careers. Graduate education at the community level increases the likelihood that graduates will practice in similar locations.

Despite the inherent value systems in our society that mitigate against service for the underserved, as pointed out by Hans Mauksch, medical education can assist in meeting the need for care of the underserved through a multipronged approach. This approach at the undergraduate level must combine selective medical school admissions and the creation of an educational milieu that fosters primary care. Programs in the community setting are admirably suited to creating this milieu and can be reinforced by strengthening primary care activities at the medical school. At the level of graduate medical education, programs with significant involvement in underserved settings will increase the likelihood of graduates practicing in these locations.

Despite these arguments, forces of today seem to mitigate against further expansion of community-based education. Most individuals with whom I have talked agree that little increase has occurred during the 1980's despite multiple successful examples of decentralized medical education. What then are the barriers to further expansion?

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## Barriers to Enhanced Linkages Between Medical Education and Delivery of Primary Care

Two recent HRSA contracts provided relevant reports that address barriers to community-based primary care education. These were entitled, "Physician Recruitment and Retention Patterns in Community and Migrant Health Centers Related to Training Programs"<sup>33</sup> and "Assessment of Factors Which Impede Development of Area Health Education Centers in Medically Underserved Areas Along U.S./Mexico Border in Texas."<sup>34</sup> These reports identify significant community, logistical, and financial barriers to education in these settings of great need. However, the overwhelming effect of these reports reflects the real opportunities for education at the community level that are waiting to be tapped. Why then have community programs of medical education not expanded during the **1980's**? Explanations lie with medical school value systems and problems of financing. Community issues and logistical issues are important but surmountable.

### Cultural Barriers

**The** typical medical school with its teaching hospital provides a different cultural milieu

from that of the community. Based in the university, it focuses upon the application of science and technology to the treatment of disease. The cultural milieu of the medical school values **indepth** knowledge, inquiry, and a detailed approach to care. Its organizational structure and sources of funding cause primary emphasis to be on research and the delivery of tertiary care. Generalism in this milieu tends to be defined, to its detriment, in terms of the absence of specialism-rather than for its positive features of comprehensiveness and **integration**.<sup>35</sup>

The practice of medicine and especially the practice of primary care at the community level emphasize a more pragmatic application of science to assist in meeting the needs of individual patients. There may be relatively less focus upon **indepth** understanding of the disease process and more on the needs and functional capabilities of the individual. Each setting with its own cultural orientation has potential to contribute much to the education of a physician. However, in almost the same way as the two cultures of C.P. **Snow**,<sup>36</sup> we in medicine have differing values and orientations as well as problems of communication between the cultures of academic medicine and community practice.



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Curricular objectives and content in undergraduate medical education are determined by the faculty of each medical school. Thus, the spoken and unspoken goals and objectives of undergraduate medical education are a reflection of those of the faculty. These objectives tend to reflect the cultural orientation of the academic faculty.

Most medical school faculties will define the overall goal of undergraduate medical education as preparing highly qualified individuals to enter any specialty of medicine. The selection process emphasizes academic achievement-especially in the biological sciences. The curriculum focuses upon basic biological sciences and hospital-based specialty rotations. Specialty faculty, enthusiastic about their own discipline, naturally pass their enthusiasm on to students. Thus, the milieu or culture of the tertiary care center is admirably designed to prepare consulting specialists, not students oriented to primary care.

Few faculties have addressed the needs for specific specialty and geographic distribution of physicians. The implicit assumption is that laws of supply and demand will meet geographic and specialty distribution needs. Many academic faculty feel that primary care needs can be met by

medical subspecialists. Others feel that primary care physician needs can be met simply by regulating the number of graduate training positions in specialty and subspecialty disciplines that are in oversupply. The tertiary care setting fosters a perception among faculty that the inpatient service is **the** place to learn medicine. For them ambulatory education is less important and can be easily learned through practice experience.

Faculty in the academic setting with their focus on advanced tertiary care are uncertain or skeptical about the purposes of community-based education. They may perceive the quality of care at the academic center to be better than that in the community. Thus, they naturally expect the quality of education provided internally by core faculty to be of higher quality than education provided in a community setting where educational quality control would be more difficult to maintain. Why then, from their perspective, should community-based education occur?

Each medical school must fulfill the requirements of the LCME. LCME standards for accreditation of undergraduate medical education state "an essential objective of a program in medical education leading to an M.D. degree ... must be to

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meet the standards of accreditation by the LCME so that its graduates will be prepared to enter and complete graduate medical education, to qualify for licensure, to provide competent medical care, and to have an educational background necessary for continued **learning**.<sup>37</sup> It further states “a medical school may establish educational objectives for its educational program consistent with its programmatic resources.” There is no explicit statement by the LCME of responsibility of each medical school to define its product other than as stated above.

Most medical schools are an integral part of a larger university that is governed by a board of trustees. These boards have relatively little knowledge of medicine or of specific manpower needs. Few of these boards maintain medical advisory committees, which advise the board concerning the responsibilities of the medical school in meeting the manpower needs of its constituencies and the resources required.

Thus, the setting and cultural milieu of undergraduate medical education together with the lack of more explicit definitions of the educational product have limited the commitment of many medical schools to extend their educational programs into community settings.

Programs in graduate medical education also provide barriers to education of physicians for the underserved. Graduate medical education has tended to be progressively based within advanced tertiary care teaching centers. Over the past 20 years the number of residency programs based in community hospitals has markedly declined in most specialties with the exception of residencies in family practice. This consolidation of programs within advanced tertiary care centers has occurred as part of the belief that the quality of educational programs will be higher in the most advanced teaching centers. A natural side effect has been the increasing proportion of graduates of residency programs in internal medicine and pediatrics seeking careers in the subspecialties of internal medicine and pediatrics.

The intensive service needs of inpatients within tertiary care centers place inordinate pressure upon programs in graduate medical education to assign residents to inpatient settings rather than to ambulatory settings and community-based ambulatory settings.

The content of specialty training within most disciplines is being defined more by medical advances in the discipline than by the service needs of populations served. Thus, programs in general surgery have

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reduced the exposure to gynecology and **orthopaedics** while increasing clinical experience in vascular surgery. These changes in surgical training are resulting in the disappearance of the “general surgeon” who was well prepared to meet the needs for surgical services in rural settings. The loss of general surgical services in small rural hospitals is one largely unrecognized factor in the demise of rural hospitals. This in turn has a major effect on the availability of physician services for the rural underserved.

The allocation of residency positions by specialty within teaching hospitals is determined more by the service needs of the hospital and the influence of the respective departments than by societal needs for individuals in the specialty. While hospital administration may recognize the need for more primary physicians or the need for services by underserved populations, fiscal realities foster expansion of residency programs in high revenue-producing specialties. For a typical hospital it may be fiscally more desirable to hire an additional resident in anesthesiology than to hire a resident in a primary care specialty. The anesthesiology resident provides needed services that might otherwise require employment of a nurse anesthetist. By appointing the resident in anesthesiology the

hospital saves the salary expense of a nurse anesthetist while at the same time receiving Medicare direct and indirect educational reimbursement for the cost of the resident. The teaching hospital also faces fiscal barriers to placing residents in community settings. In such settings even though paid by the hospital, the hospital has not received direct Medicare reimbursement until recently and still does not receive indirect reimbursement.

In an attempt to address the geographic and specialty distribution of physicians, New York State established a Council on Graduate Medical Education. The first report in 1988 made sweeping recommendations for increasing education of primary **physicians**.<sup>38</sup> This Council may well serve as a model for similar activities in other states.

### **Financial Barriers**

When a medical school and teaching hospital become committed to **community**-based education as a means of preparing physicians to serve the underserved, they must confront financial barriers. These provide major disincentives to ambulatory and community-based education. Ambulatory education for medical students is expensive because of its heavy reliance

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upon one-on-one teaching. Preceptorial experiences for medical students reduce the productivity of physician preceptors. Studies by Paulson and by Kirz suggest the cost of a medical student assigned to work as a preceptee with a practicing physician approximates \$17,000 per student a year.<sup>39 40 41</sup>

Graduate medical education in primary care specialties has major fiscal **implications**.<sup>42</sup> In most specialties the costs of graduate medical education are supported by patient care income. The costs of graduate education in primary care probably are not greater than costs in other specialties, but their income producing potential is less. Consequently, residency programs in family practice have been highly dependent upon State and Federal Government support. The typical family practice residency program receives approximately one-third of its revenues from the hospital, one-third from patient care revenues from the family practice patient population, and one-third from State and Federal Government support.”

Community-based programs serving underserved populations such as those in rural settings and those serving the medically indigent usually receive even less income from patient care. This lower

income results from reduced Medicare reimbursement in rural settings, low Medicaid payments, and service to large numbers of the medically indigent. Thus, a successful community-based program serving underserved populations requires recognition of this reduced potential for generating income.

Finally, decentralized education in community settings requires additional administrative effort for program development, coordination, and communication. These added administrative costs at a time when medical education is increasingly dependent upon patient income are a major deterrent to enhanced community-based education of individuals to serve the underserved.

In the final analysis, patient care income cannot meet the costs of these educational programs. Education must be funded in the name of education.

### **Local and Logistical Barriers**

Local barriers to community-based education, as well as logistical barriers, must be addressed if programs are to be successful. However, much experience demonstrates that these barriers can be surmounted.

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Community-based barriers exist at the community hospital as well as among practicing community-based physicians. Physicians and their hospitals view their prime responsibility as patient service. Provision of education may be viewed as important and personally rewarding but of second priority to service responsibilities. This is especially true when educational program funding is limited.

When the community-based educational program provides service to underserved populations, the health care system may already be stressed and the medical infrastructure weak. The closure of rural hospitals further weakens this infrastructure. Education overloads an already highly stressed delivery system, mandating addition of faculty. Faculty recruitment to these settings may be **difficult**. If education is simply grafted onto an overloaded system of care, core faculty at the medical school have justifiable concerns about the provision of quality education at the community level. In these settings, the student may actually be “turned off” by the enormity of the problems.

Interpersonal problems and interinstitutional conflicts frequently exist between the two cultures of **academe** and community. Issues of control are important. Concern may be

expressed that the university will “take over” patient care as well as education. Cooperative program planning and maintenance in addition to tremendous concern for adequate communication are essential.

Many suggest increasing educational linkages with community health centers, which care for some of the most **under-served**. Many residency programs have already established or are establishing educational linkages with these centers. In these settings, cultural and linguistic gaps between faculty of the medical school, health care providers, and populations served may be great. The financial and logistical barriers noted above are even more prominent in these settings. Further, a high rate of physician turnover frequently reduces the ability to identify a stable cadre of faculty. While the causes of physician turnover are many, a recurring theme has been conflict between the physicians and director or consumer board. While community-based control has been central to the community health center movement, experimentation with modified organizational structures might enhance the **long-term** attractiveness of the centers for many physicians.

Logistical issues provide the final major barrier to implementation of **community-**

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based educational programs. An evaluation of the Texas AHEC System found that distance constitutes a major barrier.” Time and fiscal limitations on travel by faculty and students between community and medical school increase logistical and communication problems, requiring even greater administrative effort for planning and coordination.

The final barriers are those of limited facilities. Many community-based education settings have inadequate physical facilities. In a physician’s office with too few examining rooms, the addition of trainees further reduces service capability and results in suboptimal education.

Thus, if an institution is committed to education of individuals to provide medical care for the underserved, it must recognize the inherent costs of manpower, additional administration, education, and space.

## Conclusions

In the final analysis, the objectives of medical education need to be clearly defined and agreed upon by each medical **school.**<sup>44</sup> If a faculty has a commitment to address the Nation’s need for primary physicians and a commitment to train health

professionals to serve the underserved, then a series of programmatic decisions are likely to evolve. First, the institution is likely to place priority upon selecting students who have characteristics and interests that are most likely to meet these objectives. Secondly, it will create an educational milieu and curriculum that will foster this interest as well as stimulate the interest in others. If perceptions are that the tertiary care environment alone does not adequately provide this milieu, then other educational sites must be developed. If a perceived need is to enhance trainees’ awareness and understanding of problems of the underserved, community medicine, and cross-cultural medicine, then training must occur in settings where these issues are addressed.

If in graduate education perceptions are that primary care residencies should be expanded, then program support must be found and the primary care patient population served must be expanded, either in the setting of the tertiary care center or in separate community-based settings.

Finally, if in addressing geographic issues it seems possible to develop graduate educational programs in settings of physician shortage, then the likelihood is great that these programs will result in

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preparation of physicians who will serve these populations. The fundamental questions are: “What is the responsibility of a medical school and a teaching hospital to meet specific societal manpower needs?” and “How does one convince a faculty that it has this broad responsibility?”

Samuel Bloom, in a recent article in the *Journal of Health and Social Behavior*, stated that:

. . . the scientific mission of academic medicine has crowded out its social responsibility to train for society’s most basic **health** care delivery needs. . . . medical education’s manifest humanistic mission is little more than a **screen** for the research mission which is the major concern of **the** institution’s social structure.\*

While Bloom’s statement has much inherent truth, some of our strongest academic institutions have taken the initiative in creating outstanding educational programs to serve the underserved. Other institutions might have incentive to develop programs through more specific mandates by LCME to develop specific educational objectives regarding functions of graduates.

External advisory committees to university trustees, composed of representatives from the public, organized medicine, the department of health, and others, can increase school sensitivity to manpower needs and assist the school in obtaining necessary resources.

State councils on graduate medical education can make recommendations on specialty distribution and can recommend incentives to make changes possible. Federal and State expansion of AHEC programs can provide fiscal incentives and an administrative structure to expand medical education into the community setting. Incentives can be provided in Medicare and Medicaid reimbursement formula to foster training of primary physicians and education at the community level.

All of the above can assist in the education of physicians who are likely to serve the underserved. As I stated earlier, the problems of access to care are broader than medical education, but education is one part of the solution.

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# The Medical Student-Patient Relationship in Rural Areas: Models to Overcome the Dual Access Problem

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In what may be called the natural method of teaching, the student begins with the patient, continues with the patient, and ends his studies with the patient ... **the** student starts, in fact, as a practitioner.

Sir William Osler

## Introduction

When Dr. Osler wrote this comment regarding the "... student ... as a practitioner," our modern notions of rural health, primary care, and medical education were nonexistent. The medical education and health care delivery systems of Osler's day were quite different. Modern medical care was new. It was being modernized through the introduction of the scientific method, an emphasis on research, the cure of disease, and the transmission of knowledge from faculty to medical students. The instruction was usually at the bedside of a patient with a particular ailment or malady who had sought treatment for this condition. This new approach to healing through education was based on the interaction of the medical faculty and student with "the patient" as the focal point. Indeed, the student did start as a practitioner, but under the watchful eye of Dr. Osler and associates.

The relationship of the student with the patient is one of the hallmarks of medical education. Students learn a multitude of facts from textbooks, lectures, demonstrations, laboratory experiments, audiovisuals, laser discs, and computer software. However, isolated facts and figures are meaningless unless applied to solve problems. A broken bone, a bleeding ulcer, or a high-risk lifestyle behavior are mere abstractions until a patient presents himself or herself for treatment. Modern medicine is an applied biological science that is "real world" and practical. It is designed to help people, but students must be trained first so they can help people. Medical education and medical practice are inexorably linked.

## The Problem

Any barriers existing between the "student as a practitioner" and "the patient" should be looked upon with alarm. Such barriers may be interfering not only with the ability to train the next generation of physicians but may have long-term negative effects on patient care itself. Students without the experience of patients are not trained, patients without properly trained medical practitioners may not get well; thus, the needs of society may not be served. Students need access to patients, and

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patients need access to care. This dual access problem is most notable in rural areas where there may be a perceived scarcity of medical and health care resources for both students and patients.

So what has happened since Osler's time? We now hear of negative tidings: poor access to care, a scarcity of primary care physicians, soaring medical costs, the closure of hospitals, uncompensated care, medical malpractice, and other problems with the "system." We also hear that there is a looming oversupply of physicians and of certain medical and surgical **subspecialties** in many parts of the country. There appears to be a discrepancy in the balance between the production of new physicians and the needs of the population-especially in rural America. How does this problem at the system level affect the "student-patient" relationship as it presently exists in rural America? Why are there barriers between getting medical students and patients together?

## Background

It is important to have some historical perspective on the problem before it can be addressed. To achieve this, one must consider the work of Abraham Flexner who

followed Osler by a few years. As Osler was the physician-educator who introduced the "student-patient" model of medical education in the late 19th century; Flexner, an educator-researcher, gave us the organizational model to sustain this model of medical education during the 20th century-the university-based medical school.

Flexner's most notable work was the famous Flexner Report of 1910: Medical Education in the United States and Canada: A Report to the Carnegie Foundation for the Advancement of Teaching. Flexner, an admirer of the German university, emphasized that research was the basis for medical education. He noted that most medical schools at the time of his report were lacking in the rigors of the scientific method, had few standards, and varied widely qualitatively. He cited Johns Hopkins (where Osler had taught) and two others as the models that most closely matched his German ideal. After the Flexner Report was published, large numbers of substandard proprietary medical schools-many in rural areas-were forced to close. Licensure laws were soon enacted, and modern medical care and medical education came of age.

Unfortunately, there was an unexpected outcome of Flexner's analysis of medical

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education. Flexner failed to recognize there was a definite linkage between how physicians were trained and where medical care was delivered after the training had been completed. He should have looked at his beloved German university to see that the methods of teaching could affect the delivery of care outside the university:

**. . . a successful model in terms of research and advanced training in scientific medicine. But, it was a poor model for the education of medical students, and it produced a large number of rather badly trained general practitioners and a relatively small number of very well-trained specialists. (Ebert, p. 176)**

In the modern era, the effects of the Flexner model of medical education have not necessarily been on the quantity or the quality of training but more on the distribution of those who have been trained: by specialty and by practice location.

With the introduction of the research-based model of medical education, medical knowledge began to grow at a rapid pace. The growth of knowledge led to specialization by departments with each having to accommodate faculty, students, interns, residents, and support personnel. With this growth in knowledge also came an attendant increase in technology, a rise in

the cost of medical care, and more focus on the “inward needs” of the medical school and less on the “outward needs” of society. Medical schools in the **post-Flexner** era were located primarily in the urban areas, so there was no great movement to meet the needs of rural areas. Urban areas had the added advantage of more available resources and a richer mixture of potential patients.

By the late **1960's**, there was an increasing realization by medical educators that medical education in **the** United States was in a state of “crisis.” As reported in another Carnegie study, Higher Education and the Nation's Health (**1970**), a possible cause of the crisis were five overlapping factors: (1) unmet needs for health care; (2) rising expectations of the population for universal access to health care; (3) critical shortages in, and inefficient utilization of, health manpower; (4) ineffective financing; and (5) rapidly rising costs. (p. 22) Ironically, these problems cited in 1970 are, 20 years later, still problems in many rural areas throughout the country.

In commenting on the Flexner model specifically, the 1970 report stated that **" . . . it largely ignores health care delivery outside the medical school and its own hospital . . ."** (p. 4) As a means to



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overcome the problems resulting from over-reliance on the Flexner model, the Carnegie Foundation recommended the application of two new models to supplement, not replace, the research-based approach to medical education: (1) integrated health science and (2) health care delivery. The health care delivery model, the conceptual basis of this paper, was designed to foster linkages between the medical school (or health science center) and outlying areas. The rationale was simple: New medical knowledge could be transmitted to medical practitioners in the field and referral patterns would be established from primary and secondary providers to the more specialized services available at the health science center. Most significantly, this new model demonstrated a shift in the mission of the medical school to include public service, in addition to teaching and research. Unlike the Flexner model, it was

. . . like Janus-that Roman deity with two faces looking in opposite directions  
. . . the medical school is expected to look two ways, to the inner university, where teaching and research are the objectives, and to the community, where service is a major consideration. (Glaser, p. 29)

The remainder of this paper will look at medical education and primary care from

the eyes of Janus as he looks to the rural health care delivery system of the 1990's.

## **The Health Care Environment for the 1990%**

It is important to understand not only the linkage between medical education and primary care delivery, but to appreciate the environment within which the two systems must interact. To achieve this goal, four trends presently underway in American health care will be discussed as dichotomies. These "from-to" dichotomies are presently shaping our conceptions of how to solve the problems confronting rural health care.

### **From Urban to Rural**

As poverty in America was "rediscovered" in the 1960's, it might be safe to say that rural health care underwent a Renaissance of its own in the 1980's. Modern rural health is not a new concept and has its origins in the the first quarter of the 20th century: "As early as 1921, Frank Billings, a prominent Chicago internist and former president of the American Medical Association, expressed concern about what he saw as 'a dearth of medical men to

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supply the needs of the rural population.” (Seipp, p. 2) In a recent study on medical education in West Virginia, it was reported that 42 of the State’s 55 counties still have some degree of a health manpower shortage by whole county or in part. (Walker, p. 7)

Health care in rural areas continues to be a concern and many of our ideas about rural health have been shaped by perceived differences between urban and rural. Although the distinctions between urban and rural are actually by degree (Hassinger, 1982, pp. 3-13), the definition of rurality itself receives a great deal of attention in the rural health literature. Numerous methods have been employed to describe what is “rural:” (1) statistical (number of people per geographic area); (2) demographic breakdown (age, sex, income, religion, education, and ethnic distributions); (3) time and distance factors (economic, social, and cultural isolation); (4) values (traditional, folk, individual, and agrarian); and, (5) philosophical: “Rurality remains a Platonic ideal; it resists quantification. Most people have a firm notion of what constitutes a rural setting. When it is analyzed, the core of this perception of rurality is the degree to which the natural environment is unaffected by humans.” (Rosenblatt and Moscovice, 1982) This latter definition is somewhat idealized, yet

the reference to the environment is useful: In urban areas, the social-cultural environment predominates; in rural areas, it is the natural environment that dictates the pace of life. Within the context of this paper, the term “rural” will be defined simply as an individualized perception of the natural environment as indicated by one or more of the first four factors presented.

More important’ however, is the notion that one’s perception of rural may influence one’s conception of “rural health.” Dr. Tom Johnson has described his own experiences as a child growing up on a farm in rural Michigan and how this shaped his views on medical care and the training of physicians. (Johnson, pp. 85-86) There are many benefits to rural living, but for those who did not grow up on a farm, the conception of rural health may be influenced by negative perceptions: (1) poor health status indicators (chronic disease, accidents, and nutrition); (2) lack of access to health services (hospital failures, health manpower shortages, and transportation); (3) inadequate financing of health care (high uncompensated care, low Medicaid reimbursement, lack of insurance); and (4) a depressed farm or coal economy (out-migration). These factors have painted a somewhat negative picture of health care in rural America. The challenge for the

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future is to answer the question: How can medical school selection criteria be broadened so medical students and residents will be more inclined to make choices of specialty and practice location more in line with the needs of rural America?

### **From Specialized Care to Primary Care**

**The** introduction of the German university model, as introduced by Abraham Flexner, had a dramatic effect on the training of medical students, residents, and, eventually, the practice of medicine itself. The Flexner model of medical education, based on research, catalyzed the generation of new medical knowledge at a staggering rate. The growth of knowledge meant new questions to explore. Science required a high degree of expertise, and physicians began to specialize. Technology became a working tool per specialty and began to add to the cost of medical services. To sustain this complex system of medical **research-**education-service, medical schools in the post-Flexner era tended to remain in urbanized settings where the population base was sufficiently large. Benefits derived from such a system did much in **the battle against disease and the advance-**ment of medical science. But, with few exceptions, specialized medical care became urbanized medical care.

In rural areas, however, the medical care delivery system began to deteriorate after World War II. Physicians, many general practitioners, began to retire or die and were not replaced by younger colleagues who chose to remain near urban medical centers. Those who did remain began to feel the effects of professional isolation. The postwar population explosion also increased their work load. The rural, primary care practice became less attractive when contrasted with the opportunities and rewards of a specialized, city practice.

Politically, the plight of rural medical care became an issue. The Federal Government acknowledged that many Americans did not have access to adequate hospital care. The enactment of the Hill-Burton program in 1946 was the first postwar attempt to alleviate this problem. Not a rural health program specifically, Hill-Burton, nevertheless, gave rural areas special consideration. An important condition of the program was that it forced States to begin considering the delineation of service areas (regions) in which private practitioners and hospitals to avoid costly duplication of services and technology. (Seipp, pp. 10-11) **Modern critics have stated that Hill-**Burton created an oversupply of hospital beds (secondary care) in rural areas when the need was for primary care.

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Hill-Burton was followed by Comprehensive Health Planning in 1967 mandating the involvement of consumers in regional health planning. During the same period, the Regional Medical Program was funded to involve medical schools in education and technical assistance to address problems related to heart, cancer, stroke, and kidney disease. Unfortunately, the **consumer-**oriented Comprehensive Health Plan and the medical school-oriented Regional Medical Program were often seen in conflict and meaningful dialogue regarding needs, rural or urban, was never a reality. Hill-Burton, Comprehensive Health Plan, and Regional Medical Program were replaced in 1974 by the Health Planning and Resources Development Act. This legislation created regional health systems agencies. The agencies mission was to begin containing costs by mandating State enactment of certificate-of-need legislation. An important section (1502) of the health systems agencies law identified primary care services for rural and underserved areas as the number one health priority. Federal support for health planning ended in 1987. (Davies and Felder, p. 75)

Through this evolutionary planning process, covering a 40-year time span, there was a growing recognition that access to health care was not only a need, but many began

to refer to it as a right. The right of access to health care in rural areas meant the right to primary care. The Federal Government enacted legislation to guarantee this right. In the mid-1960's, several Federal initiatives came into being. The Office of Economic Opportunity created 40 neighborhood health centers to serve disadvantaged populations; 12 were in rural areas. In 1970, the Emergency Health Act created the NHSC to provide primary care services to underserved populations. The Health Underserved Rural Areas and Rural Health Initiatives Acts were established in the early seventies and combined in 1976 to set up primary care delivery systems in medically underserved areas. The Appalachian Regional Commission sponsored a series of rural health clinics and health manpower programs in its geographic service area. The Federal Government was not alone in its effort to insure adequate primary care. Philanthropic organizations, most notably The Robert Wood Johnson Foundation and the **W.K.** Kellogg Foundation, have provided a great deal of support for the establishment of model rural primary care delivery systems. (Seipp, pp. 15-16)

While this need, or right, for primary care was evolving in rural America, how did specialty-oriented medical schools begin to

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respond to these changes? Internally, there was the recognition that there should be some degree of balance between specialized care and primary care. Medical educators in the immediate postwar period became concerned that an overemphasis on **hospital-based**, specialized care was fragmentary. Primary care was seen as more integrative, comprehensive, and a means to establish linkages to more sophisticated, specialized care. Many pediatric and internal medicine programs around the country began to train students and residents to qualify as primary care physicians. The establishment of the American Academy of Family Practice in 1969 initiated a new specialty designed to elevate and broaden the knowledge level and skills of the general practitioner. (Seipp, pp. 13-15) Today, pediatrics, general internal medicine, family medicine, and obstetrics are the key elements of an effective rural primary care delivery system.

Externally, four output demands, as described by Fein and Weber (1971), have been placed on the medical school in recent years. First, there is the private demand by medical students to get a good education and to find meaningful, rewarding work upon graduation. The recent decline in the number of medical school applicants is a sign of possible waning of this demand. Second, there is the governmental demand

that the student, upon graduation, be able to meet the needs of society by contributing to an improvement in the distribution of health manpower. The creation of the NHSC is illustrative of this demand. Third, there is the demand for research, which has driven the traditional post-Flexner medical school through the acquisition of new knowledge fostered by Government and foundation support; e.g., NIH fellowships in the 1960's and 1970's. Fourth, there is the general demand for health services by society. The concept of health care as a right shows this demand on the rise. Yet, with the desire to train more primary care physicians to balance with specialized care, how can these four demands be met simultaneously to insure the right to primary care to all citizens living in rural America? The answer lies in finding new and innovative ways to encourage select medical students and residents to consider patient care in rural, primary care when choosing their specialty and practice location.

### **From Centralization to Regionalization**

Abraham Flexner recognized the particular problem with medical manpower of his day as one of **a demographic-geographic** imbalance: the distribution of physicians showed a tendency to favor urban areas over rural. Two systems of medical

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education and service delivery were in existence: one for the city and one for the country. To ameliorate the problem, Flexner recommended the establishment of 31 “regionalized institutions” to cover the entire geography of the United States. (Kaufman, 1976, p. 169) As envisioned, Flexner’s system was to be based on a tertiary-care referral hospital operated by one of his proposed regional medical schools. Although he hypothesized an improvement in medical education would have a positive effect on medical services, he did not foresee several outcomes: the need for specialized medical care and medical education to be organized in a complex, hierarchical fashion; the impact of such an organizational model on the delivery of medical care away from the university; the values that would attach to urban versus rural. In terms of values, during the immediate post-Flexner era, skilled medical practitioners outside the medical school became somewhat alienated and were perceived as “second rate” in the value structure of the medical school. (Lewis and Sheps, p. 49) Dr. Tom Johnson has **reaffirmed** this value system in discussing the significance attached to a “prestigious” medical school and his observation that: “Primary care or rural practice has little or no prestige.” (p. 90)

Flexner’s call for “reorganization along rational lines” (p. 154) was just a philosophical statement and not an organizational reality. The post-Flexner medical school became not only urbanized and specialized, but it also became centralized. According to Marshall **McLeod**, “centralization refers to comparative degree of control rather than to geographic dispersion.” (p. 30) Highly centralized structures will usually follow hierarchical patterns of organizational behavior in terms of delegation of tasks, rewards, communications, and authority. Post-Flexner medical schools, in other words, accepted the values of the modern bureaucratic organization and not necessarily those of **the** predominantly rural geographic areas they served. After Flexner, the training of medical students, residents, and other health professions students “off campus” would necessitate not only redefined values but also a redefinition of organizational models to sustain clinical education in remote areas.

The 1970 Carnegie Commission report, “Higher Education and the Nation’s Health,” recognized the need for an organizational structure to sustain medical education in areas away from the health sciences center. These new entities were referred to as **AHECs**. As defined by the report, AHECs “... would be satellites of

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the university health science centers ... and would provide assistance and counsel to the community ...." (p. 56) The Commission even went so far as to recommend the establishment of 126 AHECs including a map depicting where these AHECs should be located. (p. 8) Importantly, the Commission made a strong pitch for AHEC development to be linked to **regional manpower and service delivery planning**. (pp. 74-76, emphasis added)

A major result of the recommendations for the development of **AHECs** was the enactment of Public Law 92-157, which authorized the funding of 11 contracts with university-based medical schools to establish AHECs. The goal of these "first generation" AHECs was to improve physician distribution in rural areas. (Gessert and Jones, pp. 637-638) Another important outcome of the first generation projects was the delineation of two organizational models for rural AHECs: the centralized "health sciences center hub model" and the decentralized "regional hub model." (Zwick et al., 1977) Subsequent second and third generation **AHEC** projects **have established urban, rural, and statewide** models in some 30 states. The Carnegie Commission also noted that 27 new health sciences centers were being developed

around the country and recommended 9 more "... to give **adequate regional coverage**." (p. 6, emphasis added) In both cases, **AHEC** and health sciences center, medical education was to be linked to regional planning and service delivery as part of the health care delivery model, one of the models designed to supplement the traditional Flexner model. The **regionalization** of medical education was viewed as a means to provide an organizational structure to support an educational process away from the centralized health science center.

In addition to the regionalization recommended by the Carnegie Commission study in 1970, the concept of the "community-based" medical school came into being in 1960 when the College of Human Medicine of Michigan State University at Lansing was founded. Since 1960, 40 new medical schools have been established in the United States, and 18 are community-based schools. Although some have been modified in recent years to assume a more traditional look, they differ from the research-based schools in that the mission is one of teaching and patient care. Unlike the Flexner model schools, where specialized tertiary care predominates, these schools attempt to relate the educational system to the system of medical and health care service delivery, an emphasis on

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secondary care and primary care, and a regional **perspective**. (Lewis and Sheps, pp. 149-153, emphasis added)

Is regionalization an appropriate model for the training of medical students in rural areas? James Rice thinks so and has traced the major eras of **20th-century** medical education up to the present era: the last being the Regional Consortia Period, 1980's and beyond. (p. 3) According to the World Health Organization (WHO): **regionalization** is the organizational and educational process of rational planning of all health services for a geographic and political region having a sufficiently large population to justify the provision of all significant categories of health activities. (p. 21) In specific reference to regionalization of medical education, WHO has emphasized these values: (1) opportunities for faculty members to become involved in community service outside the hospital; (2) involvement of academic specialists in community problems which leads to a growing awareness of the actual problems of the area; (3) students are provided with a total picture of the whole range of health services, and they acquire a more balanced view of the relationship between curative and preventive activities; (4) a particular, vital benefit from the interchange between the medical faculty and the regionalized

complex accrues directly to the community; and (5) regionalization facilitates the accumulation of data about the health of community and its needs. (pp. 23-24) Therefore, regionalization can be viewed as an organizational link between university and the community thus providing a mechanism for medical students and residents to experience rural and primary care under controlled conditions.

### **From Bedside Teaching to Ambulatory Care Teaching**

A point stressed throughout this paper has been the influence of the traditional, or Flexner, model of medical education on the delivery of medical care. It has been stated that this model favored urban over rural, specialized care over primary care, centralized organizations over decentralized. It has also been stated that trends are now underway favoring more emphasis on rural care, primary care, and regionalization. One additional trend has dealt with the educational process itself-the manner in which students learn and professors teach. This fourth and final trend deals with the growing emphasis on ambulatory care teaching as opposed to bedside or acute care teaching.



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It should be no surprise that bedside teaching would be the preferred mode of instruction in the post-Plexner era of medical education. Research emphasizes the exploration of the unknown, the search for new knowledge, the rare disease. As Lewis and Sheps have put it:

The emphasis is on acute and unusual conditions, leaving chronic disease grossly neglected. The focus is generally on the unusual rather than the common problems. Prevention and rehabilitation are given lip service. Tertiary care is preferred over primary care. The patient in bed is deemed to be more interesting than the one who is ambulatory. (p. 141, emphasis added)

The present AIDS epidemic adds an ironic twist to this observation: An obscure disease has become quite common in many urban teaching hospitals thus skewing the educational experience of medical students and residents from the interesting to the ordinary.

However, the research focus of medical education does make sense. In research there is an overt attempt to control variables to understand better the relationship of the treatment (independent variable) to the cure (dependent variable). The patient, or the "case," in bed due to an

acute episode of an exotic disease, is more easily controlled. A patient who is ambulatory, that is, goes home after a relatively brief encounter with the physician, introduces an entirely new set of environmental, behavioral, and cultural variables that are not easily controlled. The relationship between the treatment and the cure, therefore, becomes blurred.

Bedside teaching is also more convenient. Patients come to the hospital or medical center, stay several days, and have numerous tests and procedures performed. Roger Rosenblatt has likened the hospital to a "... clinical hotel providing meals and lodging at the same time that it offers us a leisurely and lucrative locus for teaching medical students and residents ...." (p. S44) This era of the "clinical hotel" is gone. The enactment in 1983 of a prospective payment system (PPS) based on diagnosis-related groups (DRGs) has put pressure on hospitals to get patients out of the hospital within a specified time period, or lose money. Implications for medical education are significant:

As the hospital experience becomes less representative of the clinical challenges our students will face in their future careers, and, as the hospital experience itself becomes shorter and more intense, it has become obvious that we must begin

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to build our **medical** student and residency curricula more on the ambulatory clinical experience. (Rosenblatt, p. S45)

Changes in the curricula of medical schools are quite slow and “pedagogically **conservative**” according to Rosenblatt. (p. S45) The move **from** bedside teaching to ambulatory care settings will necessitate a new look at how students learn and how medical educators teach. The loss of control inherent in the trend toward ambulatory care will require a redefinition of student-patient relationships, the role of the clinical instructor, standards to insure quality and accountability, and financing. Pedagogical techniques at the bedside will have to be supplemented by self-directed and lifelong learning techniques. This is especially true in rural areas where the student will not have the resources, like high-tech equipment or the consultation of subspecialists, to learn the intricacies of patient care. Students will have to improvise, be creative, and learn new survival skills. Medical school curricula of the future will have to accommodate these changes.

The role of the patient is likewise changing. Ambulatory care means “walking around,” and patients walking around encounter risk factors that influence their health. Future

medical students will be forced to consider not only pathophysiologic factors, but also the behavioral, cultural, and environmental determinants of health. Economic forces at work in this country are now mandating an emphasis on wellness and prevention in contrast to “cures” for established diseases. Finally, change also offers new challenges for the student-patient relationship. This is especially true in rural, ambulatory care settings where new technologies (computers, etc.) are defining the “laboratories” of a neo-Flexnerian era of medical education. Our goal should be to guide this Change.

## Models of Rural, Regionalized Medical Education

By definition, rural denotes a relatively sparse population in comparison to more urban and suburban areas. Individual communities in a specified geographic area, by themselves, may not have appropriate facilities or services to sustain a quality medical education program. There may be a paucity of hospital beds or patient census, established referral patterns, support services, financing mechanisms, **high-**technology equipment, transportation, trained personnel, or other resources sometimes taken for granted in more

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urbanized medical centers. Even educational materials like classrooms, libraries, audiovisual equipment, or a trained clinical instructor may be nonexistent. Planners and administrators at large metropolitan health science centers sometimes utilize "urbanized assumptions" regarding the training of medical and other health profession students in rural areas. What applies in the training of an ophthalmologist in Morgantown may not work in the training of a family practitioner in a small, coal mining community in southern West Virginia.

But, what if a small, rural West Virginia community (or any other small, rural community) wanted to secure the services of a doctor by becoming a community training site affiliated with a much larger regional or statewide effort. Could this community ever hope to compete with Morgantown, Charleston, Huntington or any other urban area? Are there any models in the United States that demonstrate how this might be done? The following discussion provides an overview of some successes to date.

#### **The North Carolina AHEC Program**

If there is a "model **AHEC**" in the Nation, then it is the program established at the

University of North Carolina at Chapel Hill. North Carolina is a predominantly rural state and has a "... decentralized educational consortium that brings the school into continuous contact with virtually every town and every physician ...." (Rosenblatt, p. S45) AHEC in North Carolina can be best summarized as a "total system." It fuses the service and educational delivery systems while serving as a linkage between the community and the university.

As a system, the North Carolina AHEC program is built on a series of regional subsystems. Nine regional area health education centers have been established as the structure to accomplish AHECs goals-throughout the community, the State, and the region. Since 1972, when it was funded as one of the first generation projects, the regional **AHECs** have provided a decentralized structure, or bridge, between the needs of small, rural communities and the resources of academia.

Each AHEC is an autonomous nonprofit corporation but shares a common mission while sensitive to regional and local needs. Through a series of contracts between the five health science schools, among the medical schools at Duke, Bowman Gray, and East Carolina and other schools, each

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AHEC can call upon the resources of its primary affiliated medical school or any other school to address a particular need or problem.

In terms of medical education, all four schools of medicine utilize AHEC sites for regular rotations of **students**. For example, of the 320 third and fourth year students enrolled at the University of North Carolina at Chapel Hill, approximately 110 can be found at an AHEC location at any given time. Rotations are also provided for students in nursing, dentistry, pharmacy, and public health. Additional activities include a statewide network for continuing education, off-campus degree programs, technical assistance/consultative services, and library and information services.

In primary care, 474 new residency positions (160 in family practice) have been established since the start of the program in 1974. The remainder are in pediatrics, obstetrics/gynecology, and internal medicine. Of the 252 family practitioners trained between 1977 and 1988, 68 percent are now practicing in North Carolina. Improvements in the ratio of physicians to population have been recorded in 86 **non-metropolitan** counties.

AHEC in North Carolina is guided by **5-year** plans initiated in 1974. The fourth plan, 1990-1995, will emphasize: the nursing shortage, the allied health manpower shortage, minority health manpower development, the quality of health care delivery, and the distribution of primary care physicians. In the latter category, "the development of more ambulatory care settings as teaching sites will be a major challenge ...." (Mayer, p. 663)

#### WAMI

Regionalization of medical education in one State does not necessarily mean the same thing in another State. A classic example is WAMI, the program involving four States located in the Pacific northwest. The territory covered by this innovative medical education program is vast and quite easily meets the definition of rural. Time and distance factors are major constraints, and WAMI has been designed as a multistate regional approach to overcome these barriers.

Established in 1970, simultaneously with the founding of the department of family medicine at the University of Washington, WAMI is built on the rational notion that not every State needs a medical school. Medical students spend the first year of

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schooling in their home state; the second year is spent at the central campus in Seattle; and third and fourth year core clinical experiences are spent at 17 community clinical units. These units are based in private group practices within the four-State region.

Of all the WAMI graduates, 28 percent are practicing in nonmetropolitan areas, and 61 percent have selected a primary care specialty. In both cases, WAMI exceeds national figures of 13 and 35 percent, respectively. WAMI was funded as a third generation AHEC project in 1985 and is developing a regional center for training medical and health science students.

(Rosenblatt, pp. **S48-S52**) The **WAMI** project also received funding as an AIDS Education and Training Center with the addition of Oregon as the fifth State.

### **Minnesota's Rural Physician Associate Program**

In 1970, the Minnesota legislature mandated the University of Minnesota faculty to find ways to redistribute physicians in rural, underserved areas or face the possibility of losing State funding for **the** medical school. Hence, the creation of the Rural Physician Association Program (**RPAP**), which is best

characterized as a "legislatively mandated" approach to medical education.

RPAP was built on the idea that a **9- to 12-month** tutorial with a practicing physician in a rural Minnesota community would allow a third-year medical student to experience a rural, primary care practice and, therefore, be more likely to make similar career decisions. The salient characteristics of the program are best summarized as highly decentralized (with the entire State as a "region"), mostly family practice, independent learning, and based on a mentor relationship of student to preceptor.

As of September 1986, 185 or 57 percent of all former RPAP students were in a rural practice. The majority had remained in the State of Minnesota and a majority were in communities of less than 10,000 people. Specialty decisions show that more than 70 percent of all RPAP students have selected primary care. The overall effect of the program is that all 87 counties in Minnesota have an acceptable ratio of one general physician per 2,500 people or better. (**Verby**, pp. 427-437)

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## New Mexico's Primary Care Curriculum

Osler's statement regarding the student as a practitioner has been made a reality at the University of New Mexico School of Medicine. Here, students begin to build patient care skills in the first year of medical school. Established in 1979 as an experimental curricular track, the Primary Care Curriculum (**PCC**) is characterized as "an adult learning concept" as applied to training in rural New Mexico, with primary care physicians, in ambulatory care settings. The program is decentralized and consists of small tutorial groups of faculty and students.

The curriculum is structured in a series of three phases. The first phase is 14 months in duration and divided into two parts. Phase IA is an introduction to basic and clinical science. It focuses on common health problems found in New Mexico and is executed through a series of weekly clinical skills and community clinic experiences in which faculty "go out" to the students. Phase **IB** introduces the student to a working relationship with a primary care physician as a role model. Independent study, based on practice problems, is supplemented by faculty visitations at community sites, teaching, evaluation, and access to library resources

and medical consultations for both student and preceptor. Phase II, 7 months, is the advanced basic and clinical science portion of the curriculum. It builds on Phase I, but introduces more complex biomedical problems illustrative of the underlying mechanisms of disease. It culminates with the National Board of Medical Examiners/Part I test. Phase III puts the PCC student in the traditional hospital setting with conventional track students in medicine, surgery, pediatrics, obstetrics/gynecology, and psychiatry. A community subinternship returns the student to the community-based practice of the preceptor for 3 months to reinforce the community experience. There are also elective rotations, inpatient and outpatient, and the Phase ends with the National Board of Medical Examiners/Part II examination. (Kaufman et al., pp. 1111-1113) New Mexico was funded as a third generation **AHEC** program in 1985.

## The West Virginia AHEC Program

West Virginia University (**WVU**) was one of the original **AHEC** projects funded in 1972 during the first cycle of Federal **AHEC** support. A typical Flexner-model medical school, WV had become oriented toward specialized care and research prior to **AHEC**. WV, as the flagship, land

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grant university, needed a mechanism to expand its service and educational missions in the southern part of the State. Timing was perfect, and AHEC funding was used to establish a clinical campus in Charleston, the State capital, located 160 miles south of the main campus in Morgantown. AHEC funding also coincided well with the development of the Charleston Area Medical Center, the largest medical center in the State. Today, the Charleston Division, through its relationship with Charleston Area Medical Center, provides clinical rotations for approximately one-third of the medical students enrolled at WV. Residency programs now exist in family practice, pediatrics, obstetrics/gynecology, internal medicine, surgery, behavioral medicine and child psychiatry, and general dentistry. Rotations for students in pharmacy, dentistry, and nursing are also provided. There is an active learning resources center and continuing medical education outreach program that can be traced to the first generation project.

The first generation AHEC project had a service area of six counties. The remaining 49 counties, predominantly rural, were **virtually untouched. However, through a** contract with the West Virginia Primary Care Study Group, WVU provided technical assistance and consultation in the planning

and development of a network of over 70 rural health centers. These centers, supported through Rural Health Initiatives, Appalachian Regional Commission, United Mine Workers, State government, and local resources, are today providing basic primary care services to the people of West Virginia. These centers are the building blocks for **WVU's** plans for a statewide AHEC system.

During the seventies, two new medical schools were developed in West Virginia. Marshall University School of Medicine, a community-based medical school, was established in Huntington. Marshall is oriented heavily toward family practice and community medicine and recently received recognition from the National Rural Health Association for its innovative programs. The West Virginia School of Osteopathic Medicine (**WVSOM**), originally private, was established in Lewisburg, Greenbrier County, in 1972. A highly decentralized medical education program, WVSOM has made significant strides in providing primary care physicians for West Virginia and southern Appalachia through contracts with the Southern Regional Education Board.

Since 1985, West Virginia University School of Medicine has embarked upon a

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new era in its efforts to address the lingering problem of medical and health manpower underservice in the Mountain State. Unlike the first generation project, the focus is now statewide, and the new strategy involves the cooperation of all medical and health science schools, allied professional organizations and agencies, and the executive and legislative branches of State government. Under the auspices of **AHEC**, a Statewide AIIEC Steering Committee was established in 1986 to provide a forum for discussion of common problems and to increase coordination of effort.

In January 1989, the Carnegie Commission released a study calling for the establishment of a consolidated university system in West Virginia. The recommendations of this report were enacted into law through SB 420 and the University of West Virginia came into being on July 1. All three medical schools are now part of the greater university. The legislation authorizing the new university system also called for a study of medical education and health care delivery. This study was written by Dr. Bob Walker of Marshall University and completed on December 1, 1989. It provides a framework for a statewide effort to apply the techniques of

medical education to address the problem of chronic medical underservice in rural areas.

The future of medical education in West Virginia lies in the ability to maintain the dialogue initiated in 1986. Each medical school brings its own unique mission and perspective to the cause of medical education; each has its own "model;" and each has begun to realize the strength of working together. Already there are signs that the strategy is working: a major foundation has included The University of West Virginia as one of 15 universities for possible funding under an innovative medical education program. A revitalized dialogue is underway with the Federal AIIEC program regarding a possible statewide effort. The hard pressed southern coal fields offer a challenge for the establishment of a high-impact health education training center (**HETC**) program recently enacted by Congress. Internally, there are discussions with members of the legislature regarding a possible student loan program or a State health service corps. A feasibility study for possible expansion and development of area health education centers, authorized through a legislative resolution, is near completion. Together, this rich mixture of ideas, goals, models, and potential funding sources have created a more robust environment for planning



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medical and health professions education in West Virginia.

## Conclusion

So what does all this mean? Can Dr. Osler's ideal student-patient relationship work in a remote area? Is it possible to create a rural, primary care, decentralized, and ambulatory care training program to motivate students and residents? Various models have been presented in this paper demonstrating a variety of techniques utilized in several States. There are many more that deserve recognition. A comprehensive analysis of medical training models in rural areas is now underway at the Michigan State University Kalamazoo Center for Medical Studies under the direction of Dr. Kevin Fickenscher. The results of this study should provide further insight into the types of solutions being sought throughout the United States.

Predictions are difficult, but one thing is certain: The student-patient relationship **is** the most critical factor for long-term solutions. Students and residents, whose clinical training allows early access and meaningful interaction with patients, may be more likely to return to rural areas to practice. They may, in turn, become clinical instructors themselves, thus creating a positive learning environment for future student-patient relationships. This continuous education-service process is the ideal, common thread that binds together all rural models. Osler's comment about the student as a practitioner is the essence of this educational process. Organizations, such as those discussed, are the structures to sustain and nurture this process. Insuring quality in the evolution from Osler's bedside teaching to neo-Flexnerian "laboratories," where ambulatory care redefines and revitalizes clinical instruction, is the challenge to maintaining the student-patient relationship.

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# Expansion of the Providence Family Practice Program to Sea Mar Community Health Center: A Linkage Between Graduate Medical Education and an Urban Community Health Center

Ramoncita R. Maestas, M.D., and Richard H. Layton, M.D., Providence Family Practice Residency Program

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For several years there has been a growing concern in the American Academy of Family Physicians that more residency training sites are needed. At the same time, there was an assessment through the National Association of Community Health Centers (NACHC) that with decreased funding for NHSC, they were going to need a different type of physician and one who was willing to stay. During those formative and questioning years, Dr. Donald Weaver, Director, NHSC, made presentations in Kansas City, and Dr. Richard Layton, Residency Director of the Providence Family Practice Residency Program, made presentations to the NACHC. The idea then grew that we could develop a model that could function nationally and be replicated by expanding an existing residency into a community clinic site.

The key to this is having a community clinic and a family practice residency whose goals and objectives are the same. In this case, the goal is to care for the poor and the elderly, both for Sea Mar Community Health Center and for the Sisters of Providence and the Providence Family Practice Residency. It is also helpful if the residency has had a long association with the clinic, and that was true in our case. Many of our residents

have done a community medicine rotation at Sea Mar Community Health Center, and three of their four medical directors have been graduates of this program. This exciting experiment was undertaken as a joint effort in 1987, and the process and the results follow.

In 1987, funds were obtained to begin a family practice residency training site at Sea Mar Community Health Center in collaboration with the pre-existing Providence Family Practice Residency Program. Funding for the faculty position of unit director is provided by the DHHS, PHS Grants Administration and granted to the Providence Family Practice Program. Funding to support the resident salaries, administrative support staff, and facility expansion at Sea Mar to accommodate the residency unit is provided by the BHCD Program of the DHHS and awarded to Sea Mar Community Health Center. This paper will describe the establishment of the satellite unit, the goals and rationale for its development as well as the program and the benefits of this affiliation.

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## Organizational Background

The Providence Family Practice Residency Program, located at Providence Hospital in Seattle, Washington, is operated by the Sisters of Providence and is fully accredited to provide residency training in the specialty of family medicine. The mission of the Sisters of Providence is to care for the poor and the elderly. The mission of the Providence Family Medicine Residency Program is to train family doctors to successfully practice in the special area of inner-city medicine. The residency program is a member of the University of Washington's Department of Family Medicine Affiliated Residency Network. Within the network, this program is uniquely adapted for training family physicians to practice in an inner-city community with a curricular framework that guarantees the flexibility and breadth that lies at the foundation of family medicine. The family practice residency program, operating out of the main hospital campus, has provided care to low-income, inner-city residents for the last 15 years. Residents are carefully chosen for academic excellence and demonstrated interest and knowledge in the care of **low-income** populations. In addition, minority residents are actively recruited.

Sea Mar Community Health Center, located 10 miles south of the Providence model unit, was established in 1977 and is funded in large part by the BHCDA Program through the DHHS. Established initially to serve the health care needs of the Hispanic community and low-income residents of South Seattle and South King County, Sea Mar has expanded to serve many other minority communities including the large influx of Southeast Asian refugees and many other low-income residents in the Seattle area. Over the last 5 years, Sea Mar has expanded to two additional satellite clinics located north of Seattle in the towns of Mount Vernon and Bellingham, WA. The two northern satellite clinics serve a predominantly Hispanic migrant and seasonal farmworker population. In addition to providing ambulatory medical and dental services, Sea Mar provides comprehensive services such as in-house laboratory and radiology services including ultrasound diagnostic services, health education, nutrition counseling, mental health counseling, social work, and dental services. It operates a Medicare certified home health agency that provides skilled nursing, home health aid, homemaker, and rehabilitation services, and plans to build a skilled nursing home facility in 1990.

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Sea Mar's Seattle medical facility, which houses the residency program, covers 11,000 square feet and has 14 **fully-**equipped examination rooms plus 4 procedure rooms and a minor surgery room. The medical staff at the clinic include four board certified family physicians, a pediatrician, an obstetrician, and an internist. In addition, it has two physician assistants and one family nurse practitioner. Sea Mar has over 14,000 active users and has 46,000 patient encounters per year. The patient population is similar to that at Providence with approximately 50 percent Medicaid and 22 percent completely uncompensated care.

## Goals

The goals of this linkage between graduate medical education and primary care delivery in an urban community health clinic setting are to increase the pool of primary care physicians who are committed to practice in community health centers and to demonstrate that collaborative efforts between community health centers and established residency programs can successfully address and remedy the shortage of family physicians in community health centers and similar settings.

## Project Rationale

The health care system is currently undergoing a rapid change due to the formation of **HMOs** and preferred provider organizations (**PPOs**), which have created new relationships between physicians, hospitals, and insurance companies. These changes have created an increased reliance on primary care physicians to act as gatekeepers in determining how specialty care will be utilized by the patient. Thus, the demand for primary care physicians is increasing despite the forecast of the physician surplus, which was articulated by the 1980 Graduate Medical Education National Advisory Committee (GMENAC) Report. This surplus, if any, exists only in nonprimary care specialties as a result of medical school 'graduates choosing to enter subspecialty training programs. Family medicine residency positions comprise only 9 percent of the total residency positions in the United States.' An overwhelming majority of family practice graduates continue to practice family medicine. Although more than half of the designated primary care residency positions are in internal medicine, 70 percent of those residents go on to subspecialize. It is not known how many of those graduates continue to practice general primary care in addition to their subspecialty. In addition,



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in the last 2 years, there has been a significant decline in students entering family practice, pediatrics, and internal medicine residency programs. This trend is alarming and requires immediate attention and redress in view of the critical unmet demand for family physicians and other primary care providers for rural and urban settings in this country. Without additional incentives to enter primary care, as well as additional residency slots, the primary care physicians shortage will continue.

This situation is particularly alarming for **CHCs** across the Nation that rely on primary care physicians. With the elimination of the NHSC, **CHCs** no longer have a ready pool of physicians from which to choose. Even when that pool existed, retention of those physicians at **CHCs** was a problem. The **NACHC** cites that approximately 71 percent of Corps physicians left after their commitments expired. This presents a problem as continuity of care and physician productivity is affected by this turnover. It is imperative that **CHCs** attract and retain physicians who are committed to working with the underserved for an extended period of time.

The family physician is especially beneficial to a community health clinic for a variety of reasons: **Followup** studies of several

large residency networks have demonstrated that family practice graduates are well prepared to enter practice in urban or rural underserved areas and provide comprehensive services on a continuing basis. The overwhelming majority of graduates have been successful in acquiring hospital admission privileges in family practice, pediatrics, medicine, obstetrics, and gynecology. Graduates report a relatively wide range of diagnostic and therapeutic procedures that are provided in their practices.’<sup>3 4 5</sup>

Numerous studies have demonstrated a positive correlation between location of training and subsequent location of **practice**.<sup>6 7 8</sup> Furthermore, a recent study showed that resident graduates of eight family practice programs who received substantial experience providing continuity of care for underserved populations were more likely to practice in similar environments. Four of the eight programs were located in an urban setting. They demonstrated that 46 percent of those graduates established practices in **state-designated/underserved areas**, and 41 percent reported a “publically-funded clinic” as their primary practice site.’

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The experience at Providence Family Practice Residency Program over the last 15 years demonstrates that 50 percent of the 63 graduates continue to practice in the urban inner-city area, **80** percent stay to practice in the Seattle area, and 40 percent return to participate as precepting faculty to the residency program on a regular basis (figure 1 on page 378).

A similar experience is cited by Dr. Lynn Eckhert, Residency Program Director of the University of Massachusetts coordinated program in Worcester, **Massachusetts**.<sup>10</sup> This large residency program of **48** residents has operated out of 4 sites over 15 years. One of those ambulatory clinic sites provides the outpatient experience for 12 residents in a federally funded health center run by a community board similar to Sea Mar. Dr. Eckhert reports that the graduates from that site are more likely to stay at the health center or work in other health centers with the IHS or the **NHSC**. In addition, she reports that graduates from the three other residency sites located at the main urban unit, rural setting, and a suburban setting, have also been attracted to the CHC after graduation to serve as faculty.

It is our thesis that graduate medical education programs located in community

clinics and affiliated with residency programs like Providence or University of Massachusetts are excellent vehicles through which community clinics could and should attract physicians who will practice there for the long term. Attracting those medical school graduates who are interested and committed to serving the underserved and exposing them to the support of equally sensitized and committed faculty in **CHCs** should increase the likelihood that they will continue practice with similar populations in similar settings. The residents are provided an opportunity to learn in a “real world” setting and thereby experience the realities of a group practice while caring for an underserved population. This experience will undoubtedly help them assess their ability to permanently practice within that system. As that portion of the population of underinsured and uninsured, now estimated at 37 million, grows in our country, the need for primary care physicians needed to staff the 600 **CHCs** that provide the bulk of health care to that population will also increase. A significant number of these individuals belong to racial or cultural groups outside of the American mainstream. The cross-cultural curriculum emphasized at Providence and Sea Mar provides these residents with additional strength in overcoming some of the problems inherent in these settings.

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## Sea Mar Unit Program Description

The Providence Residency Program is one program with two ambulatory clinic sites. With the expansion of the program to its second site, the Sea Mar unit, the resident class size has grown to eight residents. Two of those residents are accepted to the Sea Mar unit after participation in the National Residency Matching Program. Sea Mar has a separate National Residency Matching Program number from Providence's main unit. The residents are selected jointly by the faculty at Sea Mar Community Health Center and the Providence Family Practice Residency Director on the basis of academic excellence, demonstrated interest working with the poor and minority populations, and a desire to practice in a **CHC** setting. Efforts are made to attract minority residents. All candidates must be graduates of an Accreditation Counsel of Graduate Medical Education approved medical school and must have graduated within the prior 2 years of their application. Once accepted into the program, the resident's curricular experience for 3 years is the same as that for the main campus residents at Providence, with the exception that their ambulatory care training is carried out at

Sea Mar Clinic. That includes all their inpatient and specialty clinic rotations as well as weekly scheduled didactics in obstetrics, pediatrics, behavioral science and clinic partnership, which take place at the main campus. The first-year resident at Sea Mar will spend approximately 1 to 2 half days per week at Sea Mar, while the second-year resident will spend approximately 3 to 4 half days per week at the health center. The third-year resident spends 4 to 5 half days at the center. The remainder of their time will be spent fulfilling essential block rotations in critical care, obstetrics, pediatrics, and all the other family practice requirements.

The ambulatory experience at Sea Mar provides the resident with exposure to a full range of age groups, from newborns to geriatric patients in the nursing home. Experience in providing culturally sensitive and appropriate health care is provided. Residents will interact with a large Hispanic population, as well as Southeast Asian refugees, blacks, and Native Americans, all of whom have cultural beliefs that affect the delivery of health care. These populations have a high prevalence of illness and disease, which provides the resident with a wide range of medical practice experience. A recent survey revealed that the top 10 most common

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diagnoses seen at Providence and at Sea Mar are similar.”

The addition of the residency program has necessitated additional staff support of one full-time medical assistant, a social worker, and a residency secretary.

A family practice faculty member **from** Sea Mar or Providence is available to precept the residents while the residents are in clinic. During that time, faculty members are completely available to the residents and do not have scheduled patients. During the second year, the residents participate in night call for the Sea Mar clinic with Sea Mar faculty backup.

As mentioned earlier, the residents at Sea Mar receive the same residency curricular training as those residents at the main unit and in addition, are exposed to all aspects of community clinic operations on a day-to-day basis. They interact and work with all clinic staff, including the social worker, mental health counselor, home health nurses and chore workers, WIC coordinator, dentist, lab and x-ray technicians, and health educator. They are exposed to administrative aspects of clinic operations through provider meetings and management meetings. During the community medicine rotations, the residents have

the opportunity to work at the migrant satellite clinics in Mount Vernon and **Bellingham**, as well as other community clinics in the Seattle area.

Over the course of the 3 years, the residents take on increasing responsibility in teaching the third- and fourth-year medical students from the University of Washington School of Medicine and occasionally from other medical schools who have chosen to do a family practice clerkship at the Sea Mar Clinic. Sea Mar Clinic has been an approved site for the required family practice clerkship at the University of Washington since 1986. One of the current residents at Sea Mar was first exposed to the clinic through this clerkship rotation. In our experience, the CHC gives students ample hands-on clinical opportunity and exposure to the underserved at an earlier stage in training and may have a strong positive reinforcing effect on those students who enter medicine with ideals to pursue primary care medicine and service to underserved populations.

This collaborative effort between Providence Family Practice and Sea Mar is formalized through an affiliation agreement and an agreement of professional services, which outlines its purpose and the parameters for resident selection, resident training, faculty

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selection, responsibilities and evaluation, liability coverage, financial arrangements and responsibilities, accreditation, ongoing and annual reviews, and major funding problems and/or disasters.

## Benefits to the Organizational Participants

Table 1 on page 379 outlines the educational, financial, and organizational benefits to the three organizations participating in this collaboration: Providence Family Practice Residency Program, Sea Mar Community Health Center, and Providence Medical Center. In July 1990, we will have reached our goal of accepting two residents per year for a full complement of six residents at the Sea Mar site. Thus far, our four current residents have received excellent evaluations **from** their hospital rotations, which reflect their ongoing excellent performance. Likewise, their clinic experience is outstanding. Their patients have responded very positively to them with excellent compliance. The overall effect on clinic operations has been a positive one. The physicians on staff enjoy the camaraderie, the teaching, the sharing of information, and the support that is inherent in the

practice/teaching milieu. Similarly, the staff at Sea Mar has responded very positively to the residents. Despite their very busy hospital rotation schedules, the residents have provided vital input into clinic operation issues, which have aided in clarification of roles and enhanced efficiency. In addition, this effort has facilitated funding for facility expansion, which now provides **office** space for the residents and faculty as well as additional examination rooms. This construction was begun and completed in 1988. This greatly assists the residents as they develop a **homebase** at Sea Mar. It has also relieved some of the stress shared by the entire provider and support staff that comes from cramped quarters, multiple and simultaneous use of desks, phones, etc.

A very significant and undeniable benefit is the ability to offer a teaching opportunity to physicians recruited to the CHC. The NACHC, through a recent survey, has demonstrated that an opportunity to teach and continue an academic involvement correlates positively with a physician's desire to practice in a CHC. This expands the physicians scope of practice, enhances the professional's reputation within the medical community, and most importantly,

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the physician's job satisfaction, which results in a willingness to stay with the practice for an extended period of time.

## Summary

It has been stated that new policy programs implemented at the level of undergraduate medical education take at least a decade before the results of the new policy can be measured for its impact. Policy changes in graduate medical education should be appreciated sooner; perhaps in 4 to 10 years. Given the support of evidence that resident graduates are more influenced in practice location by the location of their residency program than medical school training, it may be prudent to focus at graduate level education for policy changes that might benefit the real physician needs

of our country. This is what the collaborative effort at Providence and Sea Mar attempts to do. If we can demonstrate that our thesis is valid and is supported by long-term results and our strategy is a sound one, then perhaps other programs across the country should explore similar collaborative efforts with **CHCs** or other similar settings in their vicinity. Based on the very short experience at our center, however, we would advise attention to the potential barriers for its replication at other sites. Table 2 on page 382 outlines a few variables we have identified as critical in optimizing the success of our program.

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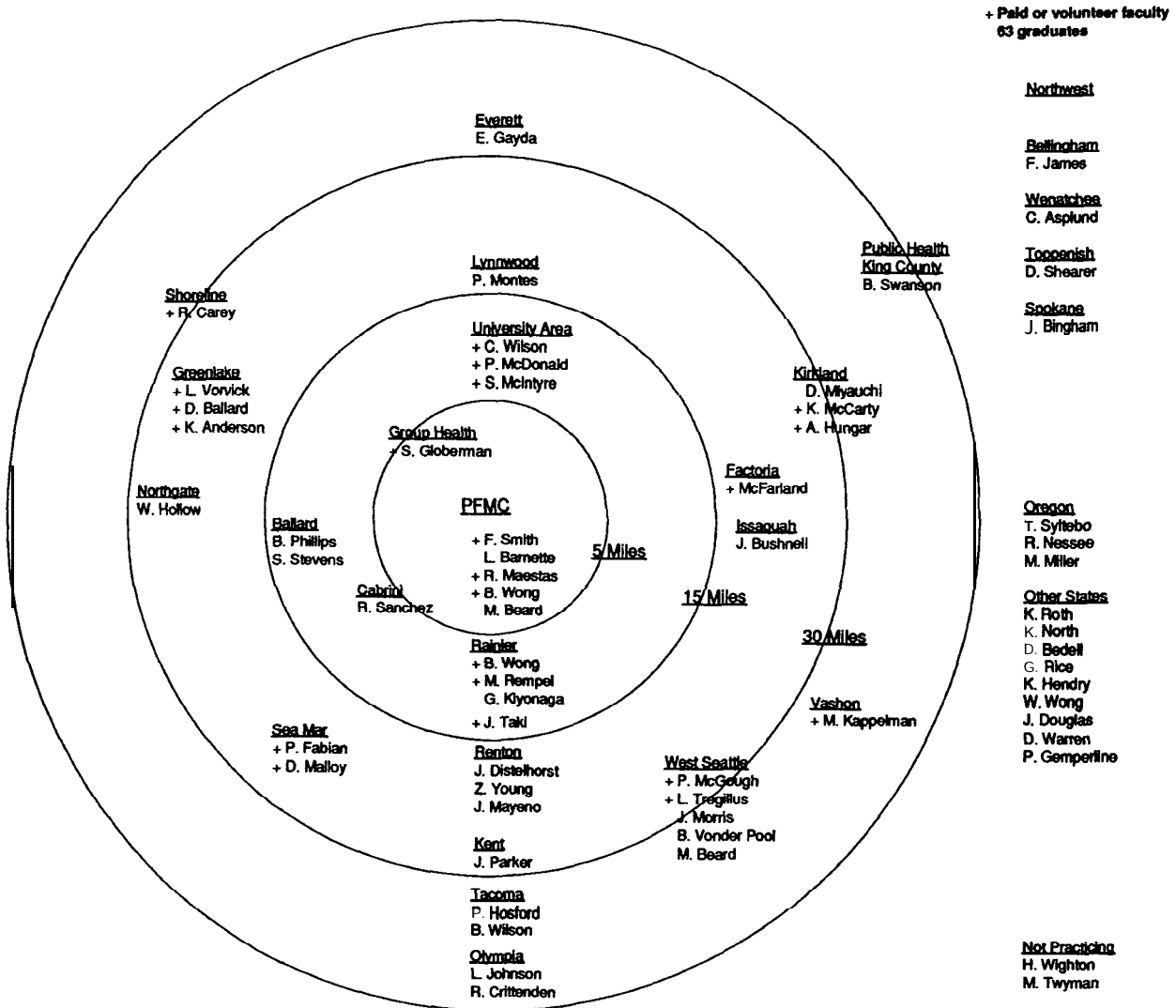
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Figure 1

Graduates' Locations in Greater Seattle Area



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**Table 1**

**Benefits to Organizational Participants**

<b>BENEFITS</b>	<b>PROVIDENCE FP RESIDENCY</b>
<b>EDUCATIONAL</b>	<ol style="list-style-type: none"><li>1. Allows Providence ability to increase number of FP graduates</li><li>2. Provides patients</li><li>3. Provides facility</li><li>4. Provides increased faculty</li><li>5. Potential for collaborative research projects</li><li>6. Access by residents to other specialty faculty (obstetricians, pediatricians, internal medicine)</li></ol>
<b>FINANCIAL</b>	<ol style="list-style-type: none"><li>1. Sea Mar pays salary for <b>6/24</b> residents</li><li>2. Sea Mar provides facility, staff, overhead for practice</li><li>3. Sea Mar provides some faculty support</li><li>4. Unit Director's salary by grant support for satellite</li></ol>
<b>ORGANIZATIONAL</b>	<ol style="list-style-type: none"><li>1. Allows expansion of the residency</li><li>2. Creates Unit Director's position</li><li>3. Increase size of family practice program, i.e., importance at Providence Hospital</li><li>4. Fulfills, mission of Family Practice Residency Program</li></ol>

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**Benefits to Organizational Participants (Continued)**

<b>BENEFITS</b>	<b>SEA MAR</b>
EDUCATIONAL	<ol style="list-style-type: none"> <li>1. Keeps provider in academic setting.</li> <li>2. Providers like to teach</li> <li>3. Brings in other preceptors who are available to all Sea Mar providers</li> <li>4. Improves library</li> <li>5. Formalized curriculum</li> <li>6. Residents teach students from University of Washington</li> <li>7. Faculty development</li> </ol>
FINANCIAL	<ol style="list-style-type: none"> <li>1. Provides more resident doctors, i.e., increase in <b>productivity/FTE</b> salary in third year</li> <li>2. Allows increase in OB caseload</li> <li>3. Increase staff-nursing, social work, secretarial</li> <li>4. Clinic expansion-space</li> <li>5. Recruitment tool for staff</li> </ol>
ORGANIZATIONAL	<ol style="list-style-type: none"> <li>1. Recruitment tool for staff physicians, other staff (from <b>M.D.s</b> who want to teach-graduates of the program)</li> <li>2. Increase staff morale</li> <li>3. National recognition as teaching institution (MATCH number - RRC) and leader of creative track in CHC</li> <li>4. Opportunity to interface and collaborate with other CHC in developing CHC specific curriculum for residents in clinic management, <b>QA</b>, etc.</li> </ol>

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**Benefits to Organizational Participants (Continued)**

<b>BENEFITS</b>	<b>PROVIDENCE HOSPITAL</b>
<b>EDUCATIONAL</b>	<ol style="list-style-type: none"><li>1. Sea Mar admits patients to Providence house staff</li><li>2. Other specialty residents are exposed to Sea Mar patients; medical, cultural, societal issues</li><li>3. Sea Mar residents participate in teaching other residents and students at Providence Hospital</li></ol>
<b>FINANCIAL</b>	<ol style="list-style-type: none"><li>1. More money/resident to hospital</li><li>2. Increase patients from Sea Mar</li><li>3. Increase number of house staff without financial responsibility</li></ol>
<b>ORGANIZATIONAL</b>	<ol style="list-style-type: none"><li>1. Good public relations to collaborate with community clinic</li><li>2. Fulfills mission of hospital (serving the poor and elderly)</li></ol>

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**Table 2**

**POTENTIAL BARRIERS FOR ITS REPLICATION AT OTHER SITES**

1. Mission and goals of two collaborating institutions are very different
2. Insufficient staff, provider **(PF** preceptor support at satellite **CHC)**
3. Nonsupportive Administration/Faculty: Hospital/ **CHC/Residency**
4. Nonsupportive Board of Directors at CHC
5. Insufficient patient population; lack of patient in-hospital volume; lack of sufficient obstetrical patients
6. Nonsupportive/nonexistent OB specialty support/back-up
7. Location; distance from model unit
8. Inadequate funding

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# Linking Primary Health Care Delivery to American Indians/Alaska Natives With Medical Education

James W. Hampton, M.D., University of Oklahoma

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History, history! We **fools**, what do we know or **care**? History begins for us with murder and enslavement, not with discovery. No, we are not Indians but we are men of their world. The blood means nothing; the spirit, the ghost of the land moves in the blood, moves the blood. It is we who **ran** to the shore naked, we who cried, "Heavenly Man!" These are the inhabitants of our souls, our murdered souls that lie ... agh.

William Carlos Williams

The white man ... does not understand America. He is too far removed from its formative processes. The roots of the tree of his life have not yet grasped the rock and the soil. The white man is still troubled by primitive fears; he still has in his consciousness the perils of this frontier continent, some of its fastnesses not yet having yielded to his questing footsteps and inquiring eyes. He shudders still with the memory of the loss of his forefathers upon its scorching deserts and forbidding mountaintops. The man **from** Europe is still a foreigner and an alien. And he still hates the man who questioned his path across the continent.

But in the Indian the spirit of the land **is** still **vested**; it will be until other men are able to **divine** and meet its rhythm. Men must be born and reborn to belong. Their bodies must be formed of the dust of their forefathers' bones.

Luther Standing Bear

## Introduction

White America remains ignorant of the history of the North American continent. Our continental history did not begin with Columbus' discovery of the New World. The "anti-historical bias" of the dominant American culture is one of the themes of William **Carlos** Williams, the white American physician and poet. The "victors write the histories and the vanquished" are relegated to folklore, the oral tradition and "foolish superstitions." The "rhythm" of our continent was recognized by the Sioux orator, Luther Standing Bear, one of that race of men whose utter annihilation seemed so necessary for the triumph of the democratic republic. The Constitution stipulates that Congress "shall have power . . . to regulate commerce with foreign Nations ... and with the Indian tribes," and this legislative branch has played a leading role in Federal Indian policymaking for two centuries. Unfortunately, expediency-not honor-has characterized United States Indian policy during the past 200 years. At the end of the 19th century, military campaigns against the Western tribes were endorsed as one way to solve the "Indian problem." Helen Hunt Jackson wrote to every Senator and Representative in **1880** that the time had come for the legislative branch "to attempt to redeem the

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name of the United States from the stain of a century of dishonor.” The depletion of American Indians’ inherited natural resources by “benign neglect and outright theft by unscrupulous private companies” was knowingly permitted by the Department of the Interior, which was charged with this stewardship.’ The health of American Indians continues to be worse than that of the general population: “Three out of eight Indians die before their 45th birthday compared with only one out of eight non-Indians.” The IHS has been turned into a “health care rationing agency” due to lack of adequate funding to support the much-needed programs to assure the health of these people.

## Historical Background

American Indians/Alaska Natives constituted approximately 1.5 million of the U.S. population in 1980.<sup>2</sup> This heterogeneous group of indigenous people represent more than 250 sovereign nations who inhabited the northern hemisphere of the American Continent? Today these people are only 0.6 percent of the total U.S. population. Through a series of treaties with these sovereign nations, U.S. Congress has regulated these people and seized their lands over the centuries, thereby reducing

many of them to a substandard mode of living in an otherwise affluent society. In exchange for their lands, the Congressional treaties guaranteed the maintenance of health for this special population.

Prior to 1832 the affairs of American Indians were under the War Department, a program of racial extermination. The Department of the Interior assumed this responsibility, and their health care came to be supervised by the Bureau of Indian Affairs in 1849. A century later, in 1954, Congress transferred the responsibility for the health care of American Indians/Alaska Natives to the PHS’s MS, which is now under the DHHS.

Access of American Indians to health care today can be divided between rural and urban. The rural care (48 percent) is provided by the IHS mostly on reservations. With an underfunded, overburdened, and sometimes culturally insensitive system it has, nevertheless, steadily improved the high infant mortality rate but is sometimes overwhelmed by the diabetes, hypertension, alcoholism, youth suicides, and rising incidence of cancer among these people.<sup>4</sup> The national average amount of MS money allocated is \$688 per person per year. Dr. Everett Rhoades, MS Director was quoted as saying, “there is no Indian

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community in the United States that has all the resources it needs.”

Urban health care (52 percent) is not provided by any organized health service, although the IHS funds some programs. Specific outpatient clinics sponsored by local intertribal groups have attempted to fill the needs of displaced rural people, but with inadequate facilities, which, although culturally sensitive, frequently provide only triage and suboptimal care to a population of young, medically indigent families and the elderly who are bewildered by the complex health care **system**.<sup>4</sup> At the Oklahoma Tribal Leaders Summit, the Tulsa and Oklahoma City clinic directors said that the Urban American Indians medical centers with their shrinking budgets are “struggling to provide services to a growing population of people not receiving help from city assistance programs.” In urban areas the Indian people “work at minimum wage and barely pay the rent and utilities but make too much to be eligible for public help.”

The United States Census Bureau estimated that in 1980 there were 540 American Indian physicians (0.1 percent of all physicians in a population of 0.6 percent of the total) practicing medicine in the United States. Under population-parity models, American Indians are still considered

“under-represented” in the medical profession and consequently are monitored as **such**.<sup>5</sup> Of the 900 physicians assigned to IHS facilities, only 3 percent are identified as American Indian physicians.

In “A Practice Profile of Native American Physicians,” Taylor reported on a survey of 84 members of the AAIP who practice medicine in a wide range of medical specialties in 24 **states**.<sup>6</sup> Of these physicians, 40 percent were in primary care specialties. About 50 percent of these physicians had less than one-fourth American Indian descent. About 45 percent of these physicians served at least 25 percent American Indian patients, thereby again indicating that minority physicians tend to serve minority populations.

The **AAIP** was established in 1971 with its focus being to promote the recruitment of American Indian/Alaska Native students into health careers with special attention to promotion of student admission to medical schools, their retention, and their subsequent devotion of their careers to serving this special population. In that year, a group of 14 American Indian physicians, who were interested in establishing a communications network among Indian physicians throughout the United States, were able to



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identify and locate an additional 38 American Indian physicians. Since then, according to the U.S. Census, the total number had grown to 512. At the same time, **AAIP** resources accounted for 311 Indian physicians, practicing in 24 States and representing a wide range of medical specialties. From 1980 to 1986, the AAMC cites 306 medical school graduates who have indicated Indian heritage. Today 200 American Indian physicians constitute the **AAIP** active membership.

### **American Indian Physicians Link Education of Future Physicians With Primary Health Care**

The founding members of **AAIP** quite clearly recognized the critical shortage of Indian health care professionals available to provide medical and dental care to American Indian communities. In 1974, less than 3 years after the founding of **AAIP**, American Indians accounted for 0.3 percent of all applicants to medical schools in the United States. Of the 134 Indian applicants that year, 64, or 48 percent, were accepted into medical school. By 1986-87 the percentage of

Indian applicants to medical school had risen slightly to 0.4 percent. Of the 121 Indian applicants that year, 60, or **50** percent, were accepted into medical school.

The total enrollment of American Indians in medical school has risen from 159 in 1974 to 259 in 1988. At the conclusion of the 1974-75 school year, 22 American Indians graduated from medical schools in the United States. By **1985-86** this number had grown to 49. While there has been a modest increase in the number of medical school applicants, acceptees, and graduates, American Indian representation has remained at or very near the 0.3 percent level.

The founding members of **AAIP** also recognized that American Indians, many of whom grow up in low-income families in rural areas, face serious problems when considering application to medical and health-professions schools. Therefore, the **AAIP** has developed a number of specific activities designed to help individual students cope with a variety of problems unique to Indian students and other minority students for which most **health-**professions schools are incapable of providing useful assistance.

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Each year since its inception, the AAIP has been invited to appear before Congress to define the health needs of Indian people as perceived by Indian physicians. The **AAIP** has acted as a consultant to tribal health programs, the IHS, and a number of other organizations interested in Indian-health-care policy issues. The AAIP conducts quarterly meetings of the Executive Board of the Association, and plans, develops, organizes, and implements an annual meeting composed of scientific sessions, workshops, and other professional activities.

The Association also publishes the AAIP quarterly newsletter. The newsletter has a mailing list of 4,000 individuals and organizations including most of the American Indian tribes and Alaska Native villages. Since 1972, the AAIP has completed 16 Federal and foundation contracts/grants worth over \$4 million and has received a favorable audit each year. In the October 11, 1985, issue of the ***Journal of the American Medical Association***, the organization was described as fostering a variety of programs dedicated to “achieving quality medical care” for American Indians/Alaska Natives.<sup>7</sup>

Through a private foundation grant, the organization has sponsored a “cultural enrichment” program to tie “traditional

medicine” with the technology of modern **medicine**.<sup>8</sup> The goal for the Cross-Cultural Medicine Development and Training Program, funded as a Pew Memorial Trust Fund project, is to expand and improve the quality of community health care by integrating Western and traditional medicine within the tribal system. **In** order to achieve this goal, the Association proposed that the following objectives be accomplished:

- The Association would identify and select 10 American Indian medical students to participate in the traditional American Indian medicine clinical clerkships.
- A training workshop on traditional healing would be conducted during the annual meeting and 41 students would interact with traditional medicine practitioners, community health representatives, and community health nurses.
- The Association would also conduct two regional workshops on traditional medicine with 14 students attending the Bemidji, Minnesota, workshop and 20 students attending the Albuquerque, New Mexico, workshop.

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## Methodology

The Cross-Cultural Medicine Development and Training Program sought to provide an opportunity for American Indian/Alaska Native health care workers, students as well as traditional healers, to come together to share experiences, problems, and solutions. The following were key elements of the program:

- Traditional American Indian medicine clinical clerkship-clinical clerkships of 4 to 6 weeks in duration that provided an opportunity for an American Indian medical student or student nurse to spend time with a traditional healer. This was arranged and supervised by a physician member of the Association. The student spent time with the American Indian physician to gain an understanding of the physician's practice and interaction with the traditional healer. Indian students who participated in the clerkships were required to present a paper on their experience at the annual meeting.
- Medical student and student nurse clerkships with the tribal community health representatives and community health nurses. This training module was a part of a clinical clerkship. Again, the American Indian physician arranged and supervised this element of the clerkship. Community health representatives and community health nurses are community-based health care workers who are employed by tribal governments. This experience afforded an opportunity for medical students and nurses to interact directly with Indian patients in their homes. It gave them an opportunity to see how effectively "Western" medicine is perceived by the community health representatives' clients and how the representatives deal with this lack of understanding. In addition, the student gained insight into the importance of home **followup** care.
- Training workshops on traditional healing. This was a summer experience coinciding with the annual meeting of the Association. Guest faculty in traditional medicine was composed of traditional medicine men who provided insights into how traditional healing methods were used in conjunction with "Western" medical technology. Discussions targeted the general theme of the meeting. Participation was limited to Indian medical students, nurses,

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- American Indian physicians, and non-Indian health care providers.
  - Training workshops using community health representatives and community health nurses, The workshop described above had additional components targeting these two modalities.
  - Semiannual training workshops. These workshops would be conducted on or adjacent to Indian reservations during the academic year. Faculty would be composed of “traditional” medicine men who would provide insight into how both “traditional” and “Western” medicine can be used in an integrated approach to treating American Indians. Participation would include medical students, student nurses, and Indian physicians. This workshop would be designed to facilitate a maximum of 20 participants.
  - Through didactic and practical application, the program develops the knowledge and skills of students in the areas of: cross cultural communication, appreciating cultural diversity, and tribal community health care.

As a result of the training module, students will be able to:

- Perceive and understand the need for both “traditional” and “Western” medicine techniques.
- Identify all health care providers (both “traditional” and “Western”) within the community health care delivery system.
- Gain an understanding of the concepts of disease and health care as perceived by Indian patients.

### **Native American Medical Students Define a Problem**

In 1988, most of the candidates applying to medical school were American Indian students from the States of California, Oklahoma, and Michigan.” The percentage of total enrollment of American Indian students in medical schools had not increased appreciably from 1978 to 1988, and the number of applicants had declined 30 percent during that period. Over 90 percent of the American Indians who enter medical school graduate. Approximately 95 percent of the American Indian students were retained at the end of 4 years

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in 1988. Existing efforts and new approaches to achieve equal access to medical education for all underrepresented minorities require increased support as progress is threatened by a decrease in Federal funding for student assistance programs and increased costs in medical education.'

The American Indian/Alaska Native applicants had mean MCAT scores of **7.7+2** and the acceptees **8.2+2** in **1987-1988**.<sup>10</sup>

The acceptees had a GPA of 3.20 and a BCPM GPA of 3.13. Only the American Indian must prove his minority status and explain how he has been "disadvantaged." Although many schools maintain minority recruitment programs, few American Indian students who apply are accepted and even fewer matriculate. The number of American Indian students that medical schools report is 30 percent higher than the actual number enrolled according to statistics gathered by the Native American Medical Student Organization." This "falsely inflated" number of American Indian medical students jeopardizes the need to achieve parity with other minorities.

An even greater problem for American Indian students than the declining applicant pool is the failure to match for residency programs.<sup>12</sup> In 1987, an alarming

19.6 percent of American Indians in the NRMP went unmatched compared with 12.9 percent for blacks and 6 percent for nonminority students. This problem has not been addressed by the AAMC and threatens the continued linking of medical education to the delivery of health care to American Indians/Alaska Natives, which has been guaranteed by Federal treaties making their health maintenance a "right" and not a privilege.

## Discussion

In the past 20 years, the IHS has significantly reduced neonatal mortality and improved maternal and child health.' These measures must be supported for the isolated villages and communities in the reservation areas. Advances in sanitation and disease control have included effective management of tuberculosis, gastroenteritis, and pneumonia. The **IHS** operates 47 hospitals, 79 health centers, and several hundred health stations that serve more than 937,000 American Indian and Alaska Natives who qualify for **Government-**sponsored medical care.

However, many American Indians are not served by the **IHS**.<sup>13</sup> These populations, especially those residing in marginal

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communities in urban settings, are suffering from neglect through reductions in the **IHS** budget. The Federal Government must continue to support the urban Indians' health clinics where an increase in the incidence of cancer, hypertension, and diabetes is being observed. Removed from the tribal and IHS facilities, this group suffers the barriers that affect indigent patients when they attempt to seek medical services.\*'

The **AAIP** has adopted the task of recruiting more American Indian physicians for this underserved population. Through a special program for Native American medical students, the cross-cultural diversities for the student physician and the different American Indian people served can be breached and a greater appreciation of the "traditional" medicine practitioner fostered. A Navajo or Sioux may be as different from a Kiowa or a Choctaw as an Italian is from a Scandinavian. These cultural differences between the American Indian/Alaska Native population are not appreciated by white America.

The recruitment of Native American medical students from a neglected group of American Indian youth continues to go unnoticed by medical schools. Admissions committees should be more willing to take

"risks" with marginal students who, with proper nurturing, can finish a **4-year** program in **5** years. Tribal councils and rural and urban health facilities should identify promising youth to the AAIP who can "track" them and channel them to the medical school minority "recruiters" who could counsel these students through their **MCATs** and premedical subjects honestly advising them on the expectations of the admissions committees.

Medical schools should look at the problem of unmatched American Indian students for residencies. Does this problem deter them from seeking primary care careers? The IHS could "hire" recruiters on the faculty of medical schools much as the Armed Forces did before their medical school was created. This program, called Medical Education for National Defense which cost about \$1 million per year, provided for educational information distribution, trips to installations on electives, and a continuous curricular opportunity for students to learn more about the "life" of physicians in the IHS. To attain quality physicians the II-IS budget would have to be increased.

We must listen with caution to those who want to curtail health care costs before they have been extended to this indigenous population of native peoples who are finally

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surviving long enough to begin to develop degenerative disease.” The Federal powers should be dedicated to the premise that more of these native peoples should live longer. The commitment of income from

their natural resources could, if neglect and theft were prevented, provide additional financial support for their future health care. Sometimes the most logical solutions are the most **difficult** to accomplish.

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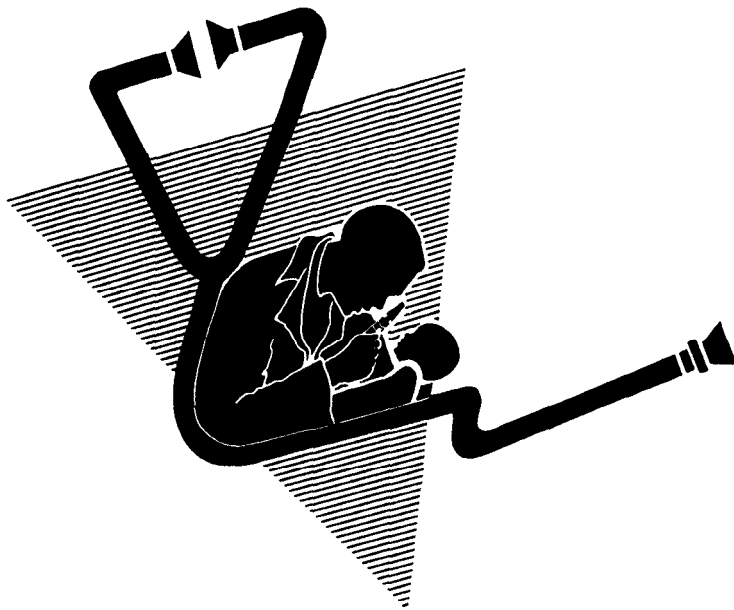
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## **Workshop IV: Primary Care Research**





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# Conference Report of Workshop IV

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## Problem Statement

There are substantial disparities in health status and accessibility of care in the United States. Primary care research, supported by the Federal Government, should be focused upon the identification, monitoring, and resolution of the issues raised by these disparities, particularly as they apply to the underserved. In addition, the relationship between primary care education and training and the medically underserved needs further exploration.

The long-term success of community-based primary care is critically dependent upon the development of effective patient care services, medical education, and research activities in the primary care setting. These activities are as interdependent in this setting as in the referral hospital.

Current primary care research needs to overcome several major problems. It is undervalued and underfunded, has too few investigators being trained to conduct this kind of research, and has not lent itself to collaborative efforts across the primary care disciplines. There is also the need to critically examine the methods used to educate medical students and residents in the primary care setting and to improve the

viability and acceptability of primary care research in the academic medical center.

In this proposal we make recommendations in two areas. First, we discuss the major themes that must be addressed in primary care research to promote a better understanding of how best to care for underprivileged populations. Any research agenda will require substantial commitment of resources. Second, we propose ways in which the Federal agencies can interface in supporting this research.

## Research Recommendations

There is no comprehensive commitment to sustained research on the problems of the underserved. While the scope of primary care research is necessarily very broad, we identify several areas below, which we believe need urgent attention. These areas relate to the education of physicians to improve access to the care of the underserved, and concern: (1) primary care practice; (2) innovative program development in primary care; and (3) primary care education and training. HRSA needs to develop a research agenda in these areas in conjunction with AHCPR.

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## • Primary Care Practice

Studies of primary care practice in relation to the care of the underserved are essential to identify the health care needs and to monitor the quality of health care for this population. They also allow an assessment of the degree to which primary care practice meets these health care needs. Although a number of studies have been done, not enough systematic analyses have been undertaken or perceived as sufficiently generalizable. For example, a study can be conducted of the availability of prenatal services to women in the Medicaid programs in different states. This study could evaluate distance to care, waiting time to first visit, percentage seen in first trimester, frequency of visits, and content of care. These variables could be linked to outcomes such as birthweight.

A study such as this is important because it could be used to establish explicit standards for access and quality in State Medicaid programs. Subsequent Federal funding could be made contingent upon meeting these standards.

Other examples of appropriate research in this area include:

- The evaluation of the efficacy of infant care services;
- Utilization of preventive health care by minority groups;
- The impact and feasibility of community-oriented primary care approaches;
- The extent and impact of the unavailability of different kinds of physicians in selected communities; and
- Barriers to effective patient/physician communication.

## • Innovative Program Development in Primary Care

New program initiatives in primary care, while frequently encouraged, are rarely fully evaluated especially in a **longitu-dinal** fashion. It is critical that these programs be rigorously evaluated and their impact fully delineated. For example, a study could measure the rate of mammography among **Latino** women who are randomized to a control group, intensive **community-**based education, a small monetary incentive, or a combination of interventions.

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A study such as this is important because mammography (like certain other preventive procedures) is effective in reducing mortality *from* breast cancer, but **Latino** women underutilize this procedure as well as other categories of health services, relative to whites.

Other examples of appropriate research in this area include:

- Programs to decrease waiting times in ambulatory clinics that serve the poor;
- Programs to augment home care services in minority communities;
- Programs to increase Spanish language skills of inner-city providers;
- Programs to increase accessibility of pharmacy and ancillary services in rural areas; and
- Programs that provide feedback and education to inner-city providers that have high rates of adverse outcomes of care.

### **Primary Care Education and Training**

There is an important need to study the entire process of primary care education and training, as this affects a wide

variety of issues ranging **from** the recruitment of students into the primary care fields to the development of new models for ambulatory teaching. For example, a study could obtain detailed psychological, sociodemographic, and attitudinal profiles of physicians choosing primary care careers versus specialty careers, caring for large percentages of minority individuals versus those not doing so, or accepting Medicaid insurance and assignment from Medicare as opposed to those not doing so.

A study such as this is important because such information could be provided to medical school selection committees. It might allow them to select more students who ultimately opt for primary care careers and provide care to the underserved.

Other examples of appropriate research in this area include:

- Studies that assess and evaluate how an academic institution integrates its teaching programs with the community;
- Studies that provide financial incentives to academic health



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- centers to graduate more primary care providers;
  - Studies of primary care mentoring programs for medical students and residents,
  - Studies of incentives to trainees to work in underserved areas;
  - Studies of teaching methodologies in the ambulatory setting;
  - Studies that promote cultural and class sensitivity in the doctor-patient relationship;
  - Studies that explore concerns of trainees about the care of patients who are sometimes stigmatized by their medical problems, e.g., alcoholism, drug abuse, and HIV infection;
  - Studies of creative approaches to sustaining the commitment of providers to work in underserved areas;
  - Studies of whether the **resource-**based relative value scale will increase the proportion of primary care providers caring for under-served populations; and
  - Studies of the experiences and attitudes of physicians who no longer practice in underserved areas.

## **Implementation Recommendations**

The implementation of this research agenda is primarily dependent upon four important mechanisms. First, there must be a major and sustained commitment of funds to support this research. Second, although the numbers of health services researchers has increased substantially over the past decade, there is a clear need to insure a growing cadre of researchers able to undertake this research agenda. This cadre must include not only academic physicians but also social scientists, who are an essential component to this type of research. It will also be important that all physicians be trained in the basic fundamentals of primary care research in order to promote a more sophisticated understanding of caring for the underserved in the community. In addition, this training of clinicians will be essential to not only aid in access of primary care data but also to help formulate future research questions. Third, to sustain this growth and development, networks of primary care providers and researchers will be necessary.

Categorical funds should be identified to specifically support research in the areas described above. We feel the optimal way

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of achieving this goal is the expansion of the mission of AHCPR coupling this with the service and education mission of HRSA. It is critical to design within the missions of AHCPR a substantial focus on the care of underserved populations in the primary care setting. It is also possible to define a broader vision in our pursuit of outcomes-related research. The current outcomes agenda is based upon variations in care that have focused on the inappropriate overuse of medical technologies. This overlooks the fact that there is a proportion of persons who underutilize resources. Recent research has revealed that patients who are poor and underinsured receive fewer primary care services and, even after hospital admission, receive fewer expensive procedures such as cardiac catheterization compared with **nonpoor** patients. We propose an expansion of outcomes research to investigate the underutilization of care, especially for disadvantaged groups.

A Federal commitment to primary care research training is needed. We propose that HRSA take the lead in establishing the following:

- A PHS primary care institute, which will sponsor an annual B-week intensive introduction to primary care research

methodologies, community approaches to health care, the management of community health centers, as well as an introduction to governmental health policies.

This institute will serve two groups of physicians. The first group will return to their communities as primary care practitioners. For this group the purpose of the training will be to better prepare them for caring for underserved populations and to participate more actively in ongoing primary care research. As in the model of the Epidemiological Intelligence Service (**EIS**), the second group will be funded by HRSA and serve as primary care officers for 2 years with the intent to evaluate a particular community's health problems. This group will go on to positions in academic primary care settings continuing research related to the communities they have studied; they may also pursue careers in the PHS.

- The expansion of postdoctoral primary care research fellowships to train more traditional university-based researchers. This could include linkages with the private sector already involved in this endeavor, i.e., The Robert Wood Johnson Foundation. Such support will

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include the training of not only physicians, but also social scientists including health educators, social psychologists, medical anthropologists, and biostatisticians.

- Sponsoring of Career Development Awards in the area of primary care research analogous to similar awards sponsored by the **NIH**. These awards are essential to support the continued research of promising young investigators and to acknowledge the Government's commitment to this field.
- Exposure to research methods in primary care should be a factor in decisions regarding Federal funding for residency training programs.
- The two preceding recommendations will result in an increasing cadre of

physicians and researchers who have a sophisticated understanding of primary care research. We propose that HRSA and AHCPR develop networks of primary care providers and researchers in medically underserved areas. These networks will be a natural outgrowth of a PHS primary care institute.

- It is essential that research affects policy and visa versa. We recommend that the Secretary convene an annual conference of legislators, Federal and State policy makers, and researchers in order to share the current deliberations regarding health care policy and the results of the most seminal and relevant research findings.

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# Introduction to the Background Papers for Workshop IV

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Four papers are included as background for the discussion of primary care research. They review past and current research and funding for research in order to articulate an agenda and framework.

Dr. Agnes G. Rezler presents “Overview of *Medical Education Research in Primary Care*.” She addresses two problems in connection with such research: existing research’s failure to address issues of deficits in primary care education and the mismatch between research and education.

Review of the existing research identifies characteristics of students who are likely to pursue primary care careers. The research provides contradictory evidence on the effect of curricula on primary care career choices but does identify the positive and negative roles played by faculty.

Other research examines “learning strategies.” Dr. Rezler reviews the research in three of the newer popular educational approaches used in primary care programs: problem-based learning, performance assessment of clinical skills, and interpersonal communications. She concludes that there is a need for additional research on the popular problem-based approach, while the research on the two other approaches is more conclusive.

Her overall assessment provides both a review of current knowledge and a basis for assessing the gaps that should be filled by further research. Research findings show:

- The need for a better selection process to maintain and/or increase the number of primary care physicians.
- Curricula can help maintain career interests but do not sway career choice.
- Role models, early practice exposure, and required clerkships strengthen choice of primary care career.
- New learning strategies need to be evaluated in terms of specific, desired outcomes.
- Based on research, use of simulated patients (the Objective Structured Clinical Exam) appears to be suited to assessment of clinical skills in ambulatory medicine.
- Organized courses promote interpersonal communication skills more than simple clinical exposure.

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- Skills in student evaluation are seen as a major deficit by both faculty and community preceptors.

Dr. Rezler identifies a research agenda that focuses on three areas: health care delivery, learning/teaching strategies, and the role of professional culture. She suggests that when implementing a research agenda, the development of a National Center for Health Professions Education Research, as proposed by **Wartman** and O'Sullivan, be considered to focus on this agenda. This would provide the needed resources and focus for more rigorous research. In concluding, Dr. Rezler outlines barriers to current research efforts, which include lack of research skills and time on the part of primary care providers and a reliance on committee approaches.

***"Health Services Research, Primary Care, and the Underserved: Toward a Synergistic Triad"*** examines the relationship between health services research and primary care. Dr. Roger A. Rosenblatt and Ms. Denise M. Lishner suggest that health services research attempts to answer questions that primary care practitioners are likely to ask, and therefore, a basis for a synergistic relationship has been laid. The authors view of research includes Dr. Rezler's description of its use in evaluating

educational approaches and expands it to include assessment of the adequacy of services and how to more effectively deliver services. The paper reviews support for health services research and the focus of that support. The Federal support for health services research is contrasted with biomedical research support.

Current research, as viewed by published articles in professional journals, is reviewed by the authors for two purposes. First, the major primary care disciplines' journals are reviewed to determine commonalities and differences between the reported research. The authors find that there are similar perspectives among the three disciplines. They classify much of the reported research as health services research, indicating that it rarely addresses issues and concerns of the underserved population although many of the editorial comments focus on these issues. The most common topics in these journals are provider studies, technology assessment, health status, patient provider communications, and the organization and cost of care. There are great overlaps of interest among the three disciplines with little recognition of one another.

The second journal review includes an expanded set of journals to determine the focus on service delivery to under-served

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populations. Dr. Rosenblatt and Ms. Lishner find that there are few articles on the subject and those which appear are generally descriptive. They then examine COPC and its population-based approach as an attempt to expand on research related to underserved populations.

The authors recommend that more structured research be conducted, building on the base established by current descriptive efforts. They suggest that the growing articulation of academic health centers' responsibilities for the community may facilitate research efforts as well as expand service delivery and educational programs.

***"The Federal Investment in Primary Care Research"*** is briefly reviewed by Dr. Fitzhugh Mullan. His analysis of fiscal year 1989 funding shows that the largest single contribution to primary care research is the **NIH's** \$15.38 million. Other research efforts identified include those of the **HRSA**; the newly created AHCPR, which replaces the NCHSR; and the **IHS**.

Dr. Mullan contends that while the **NIH** support might be considered tangential, it does focus on primary-care-related clinical matters. He suggests that this source be examined more carefully to determine

potential use for other primary care research interests. Dr. Mullan also raises consideration of COPC for undertaking community-based primary care research and suggests that the CDC along with HRSA and the **IHS** have an interest in this approach.

Dr. Mullan concludes with some recommendations about concepts to explore in the area of primary care research including: developing an annual short, intensive course in primary care health policy and research methods; consideration of expansion and replication of primary care research networks; collaborative efforts among the three primary care disciplines; and collaborative efforts between primary care and public health researchers.

The final paper by Dr. John Noble, ***"Primary Care, Medical Education, and Health Services Research: The Common Ground for National Health Policy in the 21st Century,"*** builds upon the preceding papers to identify recommendations for "new policies and activities which will increase the number of physicians in primary care practice." Based on the other papers, Dr. Noble concludes that the necessary priority and support to meet the need for primary care physicians and services is not being met. He asserts that

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part of what is required is to define what effective primary care is and to better specify the disincentives for primary care careers and how to overcome them.

The paper then reviews the basic strengths and weaknesses of primary care practice, teaching, and research. Based on this review, Dr. Noble delineates a number of observations related to primary care trends. He concludes from these, that the “tenuous and parsimonious commitment of academic medicine and the Federal Government to

primary care training and practice have seriously compromised” progress.

Dr. Noble provides a set of recommendations for a strong primary health care system. He suggests that the HRSA Conference report provide a national action agenda that can serve as the basis for stimulating major improvements. Specific recommendations should reflect financial commitments, research needs, educational reform, and student support.

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# Overview of Medical Education Research in Primary Care

Agnes G. Rezler, Ph.D., University of New Mexico School of Medicine

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## Introduction

I was invited to address two problems with research in primary care: (1) the inability of available research to provide answers to deficits in primary care education and (2) the mismatch between research and education. What is researched is often irrelevant, and what is relevant is not researched.

Given these observations, I will first present an overview of what research has to offer to those engaged in the education of medical students and residents; second, I will point to areas where new research is needed; and third, I will suggest some steps for implementing a research agenda.

While the number of physicians increased considerably in the last decade, the shortage in primary care physicians continues. The extent of this shortage has been documented in a national sample of 10,321 medical school graduates in the United States.

Although family practice was the most popular specialty of entering students, with 38 percent of the men and 33 percent of the women indicating this preference, by the fourth year of medical school, there was a 60 percent attrition rate. During residency a **sizeable** number switched to another specialty or subspecialty, for

example, from general internal medicine to cardiology. (Babbott, et al., 1988) The most recent reports prepared by AAMC staff show that interest expressed by graduating seniors in primary care specialties declined from 1980 to 1989. It has also been documented that young primary care practitioners tend to reject rural practice locations and congregate in the cities. (Langwell, 1980) Therefore, underserved areas remain underserved.

With these trends in mind we turn to the literature to explain the shortage in primary care physicians where they are most needed. Research findings will be discussed in relation to students, faculty, the curriculum, and learning strategies.

## Salient Research Findings

### Students

What kinds of students are likely to pursue a career in primary care? In this paper primary care careers include family medicine, general internal medicine, and general pediatrics.

Selection for primary care starts when applicants are admitted to medical school.



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All medical schools consider the applicants' academic qualifications first. The grade point average from college and the MCAT scores are the cornerstones of admission. While they predict performance in the basic sciences, they do not predict clinical performance or a student's career goal. Students who end up in primary care may be recognized from demographic characteristics, personality traits, and attitudes.

Certain demographic characteristics, such as gender, age, ethnicity, and the size of the student's hometown have been studied. In the 1970's more men than women chose general and family practice, but by 1985, significantly more women than men selected primary care. (Bergquist, et al., 1985) It has also been suggested that older students tend to choose primary care more often than younger students, particularly if they have a family. (Lieu, et al., 1989) Among minority students, both sexes were somewhat more inclined to select primary care, according to Bowman (1986), but Lieu (1989) and Babbott (1989) did not concur. They maintained that minority status in itself is not predictive of choosing primary care unless accompanied by age or rural background. According to data obtained from the 1988 medical school

graduates, 16.9 percent of the minority students and 13.6 percent of all students selected family practice-only a small difference. A much greater difference existed for planning to locate in a socioeconomically deprived area: 48.9 percent of the minority students versus 13.6 percent of all graduates gave an affirmative answer. (AAMC Staff, 1989) Since primary care physicians are most urgently needed in underserved areas, it is more likely that minority students will practice where the need is greatest.

In addition to minority status, rural background has also been found to predispose medical students to practice in a rural area. (Coleman, 1976; Ernst and Yett, 1985) Jefferson Medical College in Philadelphia introduced a selection policy whereby they gave preference to applicants who came from rural areas and who intended to practice family medicine. More of this group went into family medicine than the rest of the students, but the final percentage was still no greater than the percentage of U.S. trained family physicians from all graduates. In addition, the number of applicants to that program has been decreasing despite institutional efforts to recruit more students. (Rabinowitz, 1987)

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The personality traits and attitudes of primary-care-oriented students distinguish them from other students. **In** a recent study at the University of New Mexico, entering students who were stable in their career aspirations to pursue family medicine exhibited a genuine desire to be of service to others, to provide comprehensive patient care, to be involved in community-based family care, and to work with their hands. **Those** students who shifted in their career choice from family medicine to a specialty had a stronger need to explore ideas and a lesser desire for close patient contact. They expressed discomfort with the amount of information and knowledge required of family physicians. They were less confident of their ability than the stable group, and they tended to be more self-critical. They also attempted to have more control over their time in both a professional and personal sense. (**Rezler** and **Kalishman**, 1989)

The “people orientation” of family physicians has been widely documented, (**Johnson**, 1983; **Wilson & Hallett**, 1985) as well as their realistic, practical, organized approach. They want to see immediate results and make decisions from available information. (**Quenk & Heffron**, 1975) **Friedman**, et al. (**1984**), reported on a study of 521 students from 4 entering classes at

the University of North Carolina; those entering students who selected family medicine and who later became residents had a distinctive profile on the **Myers-Briggs** Personality Test.

The personality characteristics of junior and senior medical students were also studied in relation to their subsequent specialty choices. (**Wade & Ficken**, 1979) Four personality tests were administered to identify the characteristics of those students who elected to seek residencies in family practice. They differed from the others in the following ways: (1) they had higher need for affiliation; (2) they were less aggressive and less materialistic; and (3) they viewed other people as less dominant. When senior medical students applied for residency in family practice, they expressed preference for comprehensive care. (**Asken & Strock**, 1978) Similar findings emerged when primary care residents were compared with residents in traditional internal medicine and pediatric programs: the former were more concerned with the interpersonal and psychosocial aspects of health care and less with its cognitive and technical aspects. (**Dienst & Countiss**, 1982; **Rosinski & Dagenais**, 1979)

The attitudes and values of senior medical students choosing family practice as a

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career were also compared with those choosing internal medicine. (Plovnick, 1979) Both specialties have been referred to as high patient contact, and there is considerable rivalry between them. The following attitudes and values were compared:

- Orientation to patient care-helping, working with people, and social change.
- Orientation to work conditions-income, location, supervision, and hours.
- Orientation to the profession-status, colleagues, challenge, and intellectual work.

Students choosing family practice attached greater importance to orientation to patient care and less importance to orientation to the profession. There was no difference on the second dimension. While these differences were present in both classes, the degree of the difference was greater in 1977 than in 1974. This suggests that differences in the orientation of the two specialties were increasing. Apparently, students selecting a residency in family practice do have different attitudes and values toward patients and toward the profession of medicine than prospective internists. Geyman (1981), in reviewing

selection patterns of family practice residents over a 10-year period, shared this perception. He observed that a family practice resident attached more importance to working with people, particularly the elderly, to affiliation, and to social change, than other residents.

A long and thorough study compared the vocational interests of both general and subspecialty-oriented residents in internal medicine. Future generalists were more oriented toward social occupations, while future subspecialists preferred investigative and artistic careers. (Weil, et al., 1981) Both generalists and subspecialists chose their future career because of the content, but generalists paid more attention to the conditions of their future practice (control over hours, independent work, location), while the subspecialists were more influenced by role models.

Wartman (1985) presented an analysis of specialty and residency program choices in a nationwide survey of senior medical students. The choice is a difficult one because students take into consideration the academic competitiveness of a program, its reputation for teaching, and the geographic region. He found that the primary care group chose their future careers in terms of values and perspectives coming, for the

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most part, from sources other than the medical school. **Wartman** suggested that this finding raises questions about the efficacy of medical school curricula to motivate career choices in primary care.

### **Curriculum**

It is clear from the research literature that certain demographic characteristics, personality traits, attitudes, and values predispose students to selecting a primary care career. The contribution of the curriculum is less clear because contradictory findings have been reported. Undergraduate curricula have undergone major changes in several medical schools hoping that these changes will stimulate interest in a primary care career. The changes range from starting a new program to adjusting parts of the old program. Some new programs are confined only to the first 2 years; others pertain also to the clinical years. The adjustments vary from introducing new methods of instruction to sending students to community sites for clinical practice.

Regarding graduate programs, primary care residencies have been established in family medicine, general internal medicine, and general pediatrics. It was observed that medical schools exercise a screening effect

on entering students according to differences in their curricula. Maheaux (1986) reported that three different medical schools, a traditional one with academic orientation, a biopsychosocial, and one with dual emphasis on both medical specialization and primary care, attracted different kinds of students. Entering students in these three schools differed in **sociodemographic** profiles and academic background but did not differ in their career expectations. Since at least 50 percent of entering students change their career goals prior to residency, their career expectations are subject to shifts, and their preferences at entrance do not predict final career goals.

The following three programs were designed to double the number of primary care physicians. The WAMI track at the University of Washington was built on the assumptions that if (1) greater numbers of students are admitted with rural background; and (2) during Year 1, students observe primary care role models in rural areas; and (3) during one clinical year, students are exposed to primary care models in communities with unmet needs, more of them will choose primary careers in rural areas. Before the WAMI program was introduced 33 percent of the students at the University of Washington Medical School chose the family medicine pathway.

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During the first 3 years of the **WAMI** program this figure increased to 41 percent. A more impressive figure is that 60 percent of the **WAMI** graduates chose to practice in small or medium-sized towns but one-third of them not in primary care. This finding may be due to the student's origin rather than to the educational experiences in medical school. (Phillips, 1978; Schwartz & Flahault, 1978)

The Upper Peninsula program of Michigan State University is situated in a rural area where the need for health services is imminent. Only students with a rural background and a commitment to rural practice are admitted. The first 2 years are taken at Michigan State University in East Lansing and the clinical years in the Upper Peninsula. Training in ambulatory medicine with local physicians is emphasized; students assist family practitioners in their work. Comparison of Upper Peninsula with East Lansing students shows that more of the former favor Family Practice, Pediatrics, and Psychiatry for a career. Numbers have not been reported **from** either track, but it is observed that the differences may be due to self-selection into the programs. (Brazeau, et al., 1987)

The University of Illinois program at **Rockford** provides long-term exposure to

primary care. Medical students participate 2 half-days per week for **2-1/2** years at Community Health Centers located in small towns. Since one reason for the founding of the **Rockford** School of Medicine was the production of primary care physicians, the program attracted students of whom 88 percent intended to pursue a career in primary care. However, there was a shift away from primary care specialties through the 3 years at Rockford. For graduates from 1975 to 1981, 63 percent selected primary care residencies, a 25 percent reduction from entrance to Year 4. Data from the National Intern and Resident Matching program for those years showed that 65 percent of first year residents were in primary care nationwide. The program director concluded that the **Rockford** program with its unique exposure to primary care was not producing results that differed from the national average. (Wollstadt, 1982) Primary care physicians can be trained at the undergraduate level, but whether they can be produced via curricular and environmental manipulations is questionable.

It might be instructive to look at two medical schools overseas for comparison. In Britain, **Wakeford** (1987) compared student career intentions regarding family medicine from a very traditional and a very

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untraditional school. The traditional school in Cambridge emphasizes science and research, does not have a department of family medicine and devotes very little time to teaching the behavioral sciences. The new medical school in Leicester has a large family medicine department, emphasizes the psychosocial aspects of medicine, and attracts students with a broader background than Cambridge. Nevertheless, Leicester does not produce more family practitioners than Cambridge. Career intentions change from the first to the last year and the shift is away from family medicine, a similar pattern to United States medical schools.

Ben Gurion University in Israel has a unique program in which medical education and medical care have been merged to produce primary care physicians. Despite this intention and massive exposure to the surrounding communities, the career choices of the Ben Gurion graduates show only insignificant differences as compared to traditional medical school graduates in Israel. (Prywes & Friedman, 1987) Only 10 percent of the students from Ben Gurion chose family medicine, while 7 percent of the other students did so. An indicator of declining interest in primary care is that 65 percent of the graduates volunteered to participate in a community project after

graduation in 1981, but by 1985 that figure was reduced to 25 percent.

Residency programs deal with more mature individuals than undergraduate programs and thus residents may be expected to show greater career stability. Several residency programs introduced primary care pathways in internal medicine and pediatrics, hoping that these pathways would increase the number of primary care physicians. For example, in Boston City Hospital residents in general internal medicine remained stable in their practice goal while two-thirds of the traditional residents changed to a subspecialty. (Goldenberg, et al., 1979) The University of Wisconsin followed 100 family physicians, who finished their residency between 1973 and 1980. None of these graduates changed to another field or intended to do so. (Hecht & Farrell, 1982)

Since the loss of primary care manpower occurs mainly in medical school, it seems logical to probe further and to identify specific educational components that influenced students positively or negatively. The role of the faculty and learning strategies are particularly relevant.

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## Faculty

Faculty role models can be quite influential both positively and negatively. Brearly, et al. (1982), advise that medical schools wishing to increase the number of graduates entering residency in family practice should strongly consider requiring clinical rotations in family medicine and providing maximum exposure to family practice residents and faculty. Rabinowitz (1988) concurred that more students with required third-year training in family medicine were likely to enter residency in the same specialty. Greer (1989) observed that a family medicine clerkship may act to confirm or deny previously held notions about potential careers. Katz (1984) went even further: He stated that negative role models turn students away from a specialty, while the influence of positive role models is less decisive.

The time of exposure to family medicine varies. Because medical students often obtain negative images of family medicine from other specialists, it has been proposed that early exposure to role models is necessary to offset this influence. (Stephens, 1982) Some researchers maintain that a required clerkship in the third year is more beneficial for a career choice in family medicine than a clerkship during the fourth

year. (Viet Vu, et al., 1981; Edwards, et al., 1988) Many students select their career during the third year and stick with it irrespective of learning experiences in the fourth year.

Length of exposure to family medicine role models has also been studied in relation to career choice. Usually medical schools with a department of family medicine or a special track, require a longer experience and graduate a higher percentage of students going into family medicine. (Beck, et al., 1977; Goldsmith, 1982) Length of training and public ownership of the medical school were the only two factors related to selecting family medicine when characteristics of medical schools were studied. (Campos-Outcalt & Senf, 1989) Public ownership was also the most important variable in a study by Rabinowitz (1987) for predicting the percentage of graduates choosing family medicine.

At Harvard University Medical School, two primary care faculty members studied the impact of required versus elective courses in family medicine. The results showed no differences: Family medicine was chosen by no more than 5 percent of the students in both groups. The lack of influence of the required course was explained by three factors. First, students resented being

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assigned to a course in their free time. Second, many students cited the disdain for primary care that permeated the medical school. Third, the lack of role models in family medicine had a negative influence. The authors concluded that curricular innovations have little effect on students at whom they are directed unless they permeate the orientation of the faculty and are also in tune with societal trends. (Rosenblatt & Alpert, 1979) Funkenstein (1978) emphasized the impact of societal trends on medical career choice already 25 years ago.

To increase the probability of exposing students to positive role models the need to develop effective preceptorships in family medicine has been recognized. Part of medical education increasingly occurs in the community to provide ambulatory training in primary care. A preceptorship in the community represents complimentary exposure to clerkships in the medical school. Students on clerkships have fewer patients and see patients with different kinds of illnesses than in private practice. (Rabinowitz, 1989) For a broad exposure, medical educators should support both kinds of experiences.

The problem in preceptorships is that it is difficult to insure the quality of the

teaching. Several medical schools try to cope with this problem by offering some kind of preceptor training. For example, the University of New Mexico Medical School has training programs for both first year and fourth year preceptors. A **1-day** orientation workshop is held to introduce preceptors to the educational program. Subsequently, faculty circuit riders provide educational support to preceptors once a month. A recent survey of the preceptors indicated that they felt adequately prepared for most of their tasks except for assessing the clinical skills of their students, giving feedback, and evaluating student progress. (Van den Elsen, et al., 1989)

More studies collected the reactions of students to a preceptorship than the reactions of the preceptors. (Norris, et al., 1988, Hale, et al., 1979; Bass, et al., 1983) These studies typically suggest that the learners perceive an increase in knowledge and clinical skills after a preceptorship, but that the experience had little influence on their career choice, practice setting, and location. One study, the Nebraska Preceptorship Program (Bass & Paulman, 1983) reported a positive influence on choice of family practice as a career.



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## Learning Strategies

A national survey was conducted with a random sample of 2,700 full-time undergraduate faculty to describe their instructional and evaluation practices. (Jason, 1982) The following table shows the instructional methods used by clinicians.

Jason also administered instructional problems to the same sample. Based on their answers to these problems he identified that many faculty members failed to do the following:

- Determine the needs of the learners
- Share faculty expectations with students
- Formulate the goals of instruction

**Table 1**

### Teaching Methods Used by Clinicians (*Figures are in percentages*)

	Percent
Lecture	46
Small group discussion	72
Tutorial	22
Clinical supervision	63
Programmed instruction	6
Computer-assisted instruction	1
Student evaluation	80

Areas in which clinician-teachers said they wanted information appear in Table 2.

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**Table 2**  
**Percentage of Clinicians Who Wanted Printed Materials on Instructional Methods**

Instructional Methods	Percent Primary Care Clinicians	Percent Other Clinicians
Evaluating your own instructional effectiveness	85	85
Evaluating students' performance	80	77
Evaluating program quality	80	78
Making best use of instructional technology	76	74
Formulating educational objectives	70	69
Lecturing	65	68
Leading small-group discussions	68	65
Providing individual supervision of students	<b>60</b>	61
Producing/using self-instructional packages	51	<b>48</b>
Designing individualized instruction	49	47
Interpersonal skills development	44	43
Designing/using computer-assisted instruction ( <b>CAI</b> )	42	42

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- Select teaching methods that are linked to the goals of instruction
  - Provide enough opportunity for students to practice new skills
  - Link instruction to career goal
  - Use appropriate evaluation methods

Since 1982 several new teaching/learning strategies became popular. Three strategies have been selected for discussion because they have been widely introduced into primary care programs: problem-based learning, performance assessment of clinical skills, and interpersonal communication.

### **Problem-Based Learning**

The primary objective of problem-based learning (**PBL**) is to integrate the concepts of the basic sciences with clinical problems. PBL takes place in small groups of six or seven students and a tutor. The tutor's role is to facilitate the discussion not to provide the answers to the problem. One reason for using PBL is that basic science knowledge is expected to be better recalled if learned in the context of clinical cases. Another reason is that students clearly prefer this method to traditional lecture/laboratory teaching during the first 2 years.

Several educators equate PBL with acquiring problem-solving skills. Norman

(1988) proposed that the two terms have very different meaning. The general problem-solving process, often described as clinical judgment or clinical reasoning, has been thoroughly investigated. (**Elstein**, et al., 1978; Barrows, et al., 1981; Neufeld, et al., 1981; Gale & Marsden, 1983) The results of these studies provide evidence of a mental strategy starting with generating hypotheses early in the clinical encounter and following it with gathering different types of data to support or refute the hypotheses. The main difference between expert clinicians and students is that the experts generate better hypotheses. But both experts and students may solve problems well in relation to one patient and not to another. Typically, the correlation across problems is 0.20 indicating that problem-solving skills cannot be generalized. (**Elstein**, et al., 1978) Problem solving seems to be heavily influenced by knowledge, and hence, the problem-solving "skills" of experts are superior because their knowledge base is superior.

Despite the increasing popularity of PBL, its influence on students needs more research. Schmidt (1987) reviewed the outcomes of 15 programs and compared the results from conventional and **problem-based** teaching. On traditional measures of academic achievement, for example Part I

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of the National Board Examination, conventional students performed somewhat better. This test emphasizes factual knowledge acquired through rote memory, both of which are contrary to PBL. This is one instance of using a measure to test the effectiveness of a teaching method where instruction and evaluation have different objectives. Regretfully **PBL's** influence was also barely apparent in clinical performance; differences were small and inconclusive.

PBL has been criticized as a learning strategy because of the perception that a large cadre of faculty are required, which makes the cost of the program prohibitive. At the University of Colorado PBL was applied to a large group course in Neurobiology. (Nolte, et al., 1988) The number of lectures was reduced from 35 to 19, and the time made available was devoted to PBL. Small groups were led by peers instead of faculty tutors. Immediately after each small group session all students met in class with two faculty members. Faculty were specifically instructed not to lecture during this session but to help students understand the basic science underpinnings of neurological disorders.

This latter study shows that PBL can be used in a flexible manner. As with all

learning strategies, the question whether PBL is a good learning strategy for all kinds of students should be considered. We know that students vary in their learning styles and learning preferences. Would an independent learner prefer to spend a great deal of time with small discussion groups? Would a student looking for structure be productive in a barely structured environment? These questions have not been raised so far, and the answers are subject to research.

The amount of structure desired by students is sometimes less than wanted in PBL. Rush Medical College has a **2-year** program in which PBL is the major teaching method. Bloomberg and Eckenfeld (1988) compared student satisfaction with traditional and problem-solving instruction. While the PBL students were by and large more satisfied, they also registered the following criticisms: (1) they started out with a balance between a structured and unstructured approach, but the sessions became too unstructured as time went on; and (2) they wanted cooperation but experienced more competition among learners than desired.

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## The Objective Structured Clinical Examination

The use of simulated patients in medical education has been increasing ever since Harden and Gleeson (1979) developed the Objective Structured Clinical Examination (OSCE). The OSCE consists of a series of stations designed to measure clinical skills, such as history taking and physical examination. At each station simulated patients are interviewed and/or examined by medical students. A faculty observer marks the student's performance on a standardized checklist.

Although the OSCE is usually thought of as an evaluation method, it is equally useful as a learning strategy. It provides the opportunity to practice clinical skills on a variety of patients. It also lends itself to formative or diagnostic evaluation, particularly when feedback is included in the process.

One of the major advantages of the OSCE is its flexibility: The situation, the level of difficulty, and patient problems can be adjusted to suit particular programs. Customary clinical rating scales used with residents, and found to suffer from many errors, could be supplemented by formative evaluations based on the OSCE.

The OSCE has been widely studied with medical students as well as residents. In addition to publications in several journals, a collection of papers from two International Conferences (Hart, et al., 1985 and 1987) deal with the following aspects of the OSCE: (1) comparison with other examination methods, i.e., written and oral tests; (2) applications to specialties; (3) assessment of cognition, clinical, and technical skills; (4) psychometric properties; (5) blueprints for stations; and (6) cost and time.

To illustrate the utility of the OSCE for different purposes, three studies are reviewed. The first one presents the examination of third-year medical students in internal medicine. (Petrusa, et al., 1985) This examination consisted of 17 clinical activity stations and 17 companion writing stations. Clinical activities included taking a history of the present illness and doing a physical examination. Simulated patients were trained not only to portray a case but also to evaluate the performed skills. At the companion writing stations, students answered open-ended questions about diagnosis and management. Checklists marked by faculty observers were correlated with patient marked checklists to estimate agreement. Correlations were also obtained with clerkship ratings and with scores on

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the National Board test. The latter correlated more strongly with the writing stations where questions about diagnosis and management were answered. Correlations were typically low between clinical and writing stations. One lesson to be learned from this and other studies is that the OSCE should be used to **assess** clinical skills; diagnosis, management, and content knowledge may be measured in a more cost-effective manner by written tests. (Viet Vu, 1989; **Rezler &** Kalishman, 1990)

The second study reports a modification of the typical OSCE examination designed for family medicine residents. (Bowman, et al., 1985) Five stations were grouped together in a pattern that reflected the continuity and comprehensive nature of family practice. In the first station the resident took a history; in the second he did a physical examination; in the third he planned the write-up of the case; in the fourth he provided patient education; and in the last station he wrote a chart entry. The time limit was 25 minutes for the five stations.

Whether single stations or a group of stations are used, immediate feedback enhances the value of the experience. At the University of Ottawa both faculty and students learned from giving and receiving feedback. (**Hodder**, et al., 1989) Immediate

feedback allowed examiners to assess the merits of individual station designs and the dialogue involved in the feedback process gave them a greater insight into the attitudes of the examinees. Students commented that feedback permitted additional teaching of “fine” points and helped to reduce the stress inherent in any examination. Furthermore, those students who received feedback improved their performance more on subsequent testing while others showed little improvement.

The benefits of the OSCE have been looked at from an educational as well as a psychometric perspective. Medical educators maintain that the assessment of clinical skills is a valuable learning process irrespective of the validity and reliability of the scores. Interaction with a simulated patient will almost inevitably help learners to acquire clinical skills, and observations by faculty will help them to focus instruction on those parts where deficiencies exist.

Investigators with psychometric orientation question the generalizability of the OSCE scores. They want proof that quality of performance at one station helps to predict performance at another station. The answer to this question has been pursued by van der Vleuten (1988) and by Swanson &

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Norcini (1989). These investigators agree that 10 to 12 stations are insufficient to produce reliable scores. They suggest that 4 hours of testing time is needed to obtain fairly accurate and reproducible scores. An alternative is to combine written tests with performance tests, where the former measure cognitive ability and the latter clinical skills. Diagnosis, management, charting, and write-up of cases do not require performance tests.

### **Interpersonal Communication**

There are many reasons to emphasize interpersonal communication in medical education. Primary care physicians are expected to engage in a closer, more personal, and continuing relationship with patients than has been customary in specialty oriented care. Physicians' ability to meet these expectations is questionable; they have been criticized by their patients for their lack of interpersonal skills. The most dramatic illustration of patient dissatisfaction has been malpractice suits. A less extreme but frequent patient reaction is noncompliance brought about in part because the patient does not understand what he or she was told to do.

While the importance of interpersonal communication in medical practice is

self-evident, it has been taken for granted that these skills will be learned by observing role models and through daily contact with patients. This assumption has been questioned during the past 10 years by an increasing number of medical educators. Organized courses in interviewing have been started in many programs, primarily during the first 2 years of medical school. (Kahn, et al., 1979)

A distinction needs to be made between interview content and process. Content is related to the information that is exchanged with the manner in which the interview is conducted. The following skills refer to the interview process (Jason, et al., 1970):

- Observation-the capacity to observe and interpret the general appearance, manner, and nonverbal behavior of patients;
- Listening-the capacity to discern the meaning of what patients say, want to stress, or avoid saying;
- Questioning (closed and open)-the capacity to phrase factual questions in a clear manner and to ask open-ended questions to elicit what the patient considers to be important;

- patients and videotaped interviews conducted by the learning, followed by feedback, are powerful techniques and promote positive results.

Although formal instruction is usually confined to one course, at the University of Limburg students are trained from Year 1 to Year 6 in communication skills. A Skillslab has been established to provide for continuity. (Van Dalen, et al., 1984) The training starts with problem clarification, according to the patient's frame of reference, practicing a nondirective interviewing style. The second unit teaches how to take a medical history using directive questions and collecting specific information. In the third unit students give advice to patients regarding treatment and negotiate with the patient about compliance. In terms of learning strategies, they start with providing feedback with the help of an apparatus. The second unit uses role playing and evaluation. In the third unit, learning occurs by means of contact with a simulated patient who also provides evaluation. Real patients are only introduced later when it is considered desirable to increase the difficulty level of the task.

A much simpler but nevertheless intriguing experiment was conducted at London



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Hospital Medical College. Difficulty with understanding patient problems was the focus of this study. Students first estimated the expected level of basic biological knowledge and the likely lifestyles of their patients. Students' initial estimates were quite poor but improved considerably after the reasons for the discrepancies were discussed with the patients. This simple exercise could be easily introduced into clinical instruction both at the undergraduate and graduate levels. (Burnett & Thompson, 1986)

Interviewing skills were also taught via a self-instructional package designed by a group of faculty. (Hoban, et al., 1978) The package is divided into four modules and includes printed, photographic, and videotaped materials. The student can read, observe, and react in a brief space of time assuring optimal student attention. Medical students were used as resources for putting the package together; its development took 9 months.

It has been reported that about 50 percent of the patients who consult a primary care physician have psychosocial not physical problems. Physicians often feel bewildered with these patients. They try to refer them to a psychiatrist, but many patients refuse a referral and leave the doctor's office

resentful and disappointed. More improved training in communication skills could spare the physician embarrassment and provide much needed services to nonpsychiatric patients.

## Summary and Implications

Key research findings are summarized below with implications for primary care education.

- Maintaining and/or increasing the present number of primary care physicians depends on better selection procedures in medical schools. The demographic and personal characteristics of primary care physicians have been identified from the literature (Appendix A on page 432). Present selection procedures tend to overlook these characteristics and thereby contribute to the overproduction of specialists.
- The bulk of the medical education literature indicates that the curriculum can help to maintain the career interests of students but that even special programs, community preceptorships, departments of family medicine, and required clerkships do not sway career

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choice. Physicians' taste for specialties and locations, reflected in their background and personality traits, seems to affect their career decisions more than either financial considerations or the curriculum.

- Given the choice of a primary care career it is likely to be strengthened by role models, early exposure to practice, and a required clerkship.
- The value of new learning strategies needs to be demonstrated in relation to specific outcomes. The popularity of a teaching method does not guarantee its effectiveness in relation to specific outcomes. Considering that **problem-**based learning has been introduced into many medical schools, the paucity of research about its intended and achieved results is cause for concern.
- The OSCE has stimulated a substantial body of research and has become the most accepted performance test for undergraduates. It is particularly suited to the assessment of clinical skills in ambulatory medicine. The length of the test and the mix in the stations determine its validity and reliability.
- Organized courses promote interpersonal communication skills more than does simple clinical exposure. Several teaching methods are effective, such as videotaped interviews conducted by the learner, followed by feedback. Experiential learning is decidedly superior to didactic teaching. Observing role models is helpful as a first step but structured practice needs to follow.
- Both faculty and preceptors in the community perceive their greatest shortcoming in student evaluation. They feel deficient in evaluating clinical skills, in giving feedback, and in assessing progress.

## Research Agenda

Having identified the major findings in the primary care education literature, the following research agenda draws attention to the gaps and to topics that need exploration. The list is not intended to be exhaustive and is not an attempt to prioritize. It reflects the biases of one researcher in what she considers important.

Time limitations do not permit an elaboration of research methods or research

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design. Basically, research is conceived of as disciplined inquiry, making use of data and reasoning in a manner that the process is capable of withstanding careful scrutiny by other members of the scientific community.

In any kind of research, the questions asked determine the direction of the study. The questions need to be sufficiently specific to provide focus to the study. The following questions are grouped according to three areas: (1) health care delivery; (2) learning strategies; and (3) professional culture.

### **Health Care Delivery**

- On what basis are referral decisions made by primary care physicians?
- What kind of information does a patient need to be an effective participant in his/her health care?
- Only about 5 percent of primary care physicians believe that they are successful in helping patients change their behavior. What kinds of patients are most likely to change? What kinds **of interventions are most helpful to** change behavior?

- Are residents trained in ambulatory clinics more effective with ambulatory patients than with hospitalized patients? Compared to peers trained with inpatients, what differences can be observed in patient care practices?
- How do ethical values influence patient care? Are primary care physicians aware of this influence? Are they aware of their ethical values?

### **Learning/Teaching Strategies**

- What are the relationships between teaching methods and clinical competence?
- Do innovative methods, for example problem-based learning, promote the generation of hypotheses, problem solving, information seeking, to a greater extent than other teaching methods? On what basis are some innovative methods accepted or rejected?
- Under what circumstances is patient-teaching attempted by students **and residents?**
- What part does feedback play in medical education? When should

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feedback be given? Are there areas of professional learning where feedback makes a greater difference? What kind of learner benefits most from feedback?

- How effective are the new instructional technologies in medical education?
- What teaching strategies are most relevant to developing self-reflective practitioners?

### **Professional Culture**

- How does the culture of a given medical school affect faculty interest in research and research productivity?
- How do changes in the organization of health care delivery affect career satisfaction in primary care? Are there differences in the satisfaction of practitioners who work in different settings (private practice, HMO, etc.)?
- What are the prerequisites of successful health teams? Why has it been so difficult to establish health teams in medical schools? How should the physician's role be defined?
- To what extent do committees serve the purpose of fostering original thinking

needed in research? What aspects of research are promoted or interfered with by committees?

- To what extent is leadership in medical school shifting from academic scientists to administrators and public relations persons? How is research affected by this trend?

### **Implementation of the Agenda**

Certain conditions are necessary to implement a research agenda. The resources needed include a study population, researchers, support systems, and money for funding or at least reimbursement of cost. All of these were considered by a study group of academic family physicians. (Parkerson, et al., 1982) They recommended the development of family medicine research centers; the provision of more time for both students and faculty for research purposes; the inclusion of elective research opportunities into residency training, and fund raising by professional organizations in family medicine. The study group polled all full-time faculty in family medicine and reported that **34** percent engaged in research at least 10 percent of their time. At the same time 64 percent of nonphysicians did research in family medicine and in

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curriculum development. Most of these were educators and social scientists attached to family medicine departments. Together with physicians they produced a respectable amount of research utilizing a multidisciplinary approach.

A potential resource for research are physicians in private practice who are also volunteer clinical faculty in teaching hospitals. Rubenstein, et al., (1988) described their participation in educational research, the goal of which was to improve patients' everyday functioning. Voluntary teachers have been a virtually untapped resource for research. Another group which might be drawn into research are retired physicians.

To obtain scientifically sound research, collaboration between medical faculty, social scientists, educators, data processors, and statisticians is essential. About 35 medical schools in the United States have Offices of Research in Medical Education staffed with nonmedical research personnel. In the absence of such personnel, medical faculty would benefit from obtaining consultation in research design, assessment methods and data analysis, to assure that the planned research will stand up to scrutiny. Otherwise a great deal of time and effort may be wasted.

Because research done in medical schools is often subject to limitations in funding, time, space, and perhaps even outside control, **Wartman & O'Sullivan** (1989) proposed a more ambitious scheme: to establish a National Center for Health Professions Education Research. They advocated that the assumptions of medical education and the innovations introduced into health professions education should be tested in a systematic and rigorous manner. They feel that research done in medical schools has been hampered by lack of academic credibility and by local pressures exerted on researchers to prove rather than test the viability of educational innovations. A national center would also provide access to multidisciplinary samples usually lacking in single schools.

### **Barriers to Research**

Not many faculty members have had experience in medical education research. Therefore, a short introduction and workshop could introduce them to the basic principles of research design. This could help them decide which questions could be answered in their situation given the available time and resources.

Lack of time is a serious barrier to doing research that requires a block of time rather

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than a few hours here and there. The best arrangement would be to release interested faculty from patient care for one or two consecutive months, with very low teaching loads.

Another serious barrier to research is the reliance on committees. Medical schools have been using committees indiscriminately, often with few accomplishments to show for the amount of time and effort spent. For research purposes, committees are counterproductive. The first step in research is to ask an original question. Judging from the biographies of scientists, creative ideas occur to individuals, not to groups. Committees often stifle creative

ideas because they seek consensus, which by definition interferes with originality. Ideas unacceptable to the majority are rejected while good research thrives on bold and unusual ideas. It will not be easy to free research from bureaucratic shackles, and forcing it into a collective mold interferes with success.

I expect that several of my suggestions and conclusions will sound unacceptable. Don't hesitate to challenge them. I am glad to have had this opportunity to talk to you about what research can contribute to primary care education, and I look forward to your comments and questions.

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## Appendix A

### Indicators for Selecting Primary Care Physicians

Demographic	Age: <b>25+</b> with family Rural background
Academic	Average grade: from 3.00 - 3.25 Science GPA: 3.49 and below Total <b>MCAT</b> : 54 and below Public college
Interests, values	“People orientation” Desires to be of help Desires to provide comprehensive care Wants involvement in community-based health care Wants to promote social change
Leisure Activities	Prefers to engage in group activities Likes to work with hands sports Prefers concrete to abstract tasks
Personality	Realistic Practical Organized Affiliative Friendly Caring Self-confident

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# Health Services Research, Primary Care, and the Underserved: Toward a Synergistic Triad

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## Introduction

This Conference is designed to explore the intersection between primary medical care and the provision of health services to underserved populations. The purpose of this paper is to weave one additional element into this tapestry: health services research. The fundamental tenet of this monograph is that health services research is a valuable tool not only in improving our understanding of how health care systems operate, but in assisting primary care physicians improve the delivery of health services to underserved segments of the population.

There are many ways in which primary care, underserved populations, and health services research interrelate, and it would be easy to become hopelessly mired in exploring every causal path and intriguing byway. To try to give some clarity to this exploration, let us try to state at the outset the causal path that we see connecting these three topics.

- In the United States, there is a direct relationship between the status of primary care and the provision of services to underserved populations. The most efficient way to deliver health services to underserved populations is

through primary care practitioners. If these practitioners are unavailable, the health care system becomes increasingly fragmented, expensive, and difficult to organize or manage.’<sup>2 3</sup> Thus, any strategy to improve health services to underserved populations requires that we create an environment that encourages the production, retention, and rational distribution of primary care providers.

- One of the major underpinnings of primary care is the concept of population-based approaches to health and illness, the ability to provide care to the individual patient while recognizing that he or she is embedded in a larger society. The primary care physician is the pragmatic interface between the curative and the public health care system, the health care professional best equipped to respond to the needs of the numerator without losing sight of the broader denominator.
- Health services research, while not the intellectual property of any particular discipline, lends itself to answering the type of questions that primary care practitioners are likely to ask. There is a natural affinity between the health services researcher who seeks to

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optimize the delivery of health services within stipulated constraints and the primary care practitioner who tries to assist the individual patient within the context of the society to which the patient belongs. Thus, it is natural and appropriate that the research agenda of primary care physicians should include health services research, and that the health services research community should look to primary care physicians for answers to many of the more important organizational problems with which they are confronted.

These assertions are arbitrary, but they do provide a conceptual basis for understanding the relationship between health services research and that part of the primary care physician's life that concerns itself with care to underserved populations. If we accept the proposition that health services research is a legitimate tool in the hands of those interested in the intersection of primary care and health care for the underserved, how can this approach best be used?

There are several major ways in which health services research can play a major role in deepening the relationship between primary care education and service to underserved populations. First, health

services research techniques can be used to evaluate the current system of medical education in preparing primary care physicians for careers that include providing care for underserved populations. Dr. Agnes G. Rezler has explored many of these studies in the excellent paper she has written for this workshop, and these will not be explored further here.

Secondly, health services research can be used as a tool to assess which populations are not being adequately served and, more importantly, to explore ways in which primary care providers can more effectively deliver services to underserved populations. As part of the process of actually launching such studies, health services research can become a major component of the research agenda of academic primary care physicians. Such an endeavor would strengthen the academic standing of these clinician-teachers and enhance their position within the academic environment.

In order to pursue these possibilities, we must first examine the extent to which members of the primary care disciplines are currently engaged in health services research. What portion of this research, if any, is devoted specifically to the problems of underserved populations? Is there overlap in the research agendas of the three

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disciplines which operationally constitute primary care in the United States: family medicine, general internal medicine, and general pediatrics? How could there be more productive collaboration among the primary care disciplines in exploring issues of mutual concern? In what ways could research on the problems of underserved populations be more rigorous and more relevant?

### **Health Services Research— Support and Focus**

Health services research has always been afflicted with the problem of muddy definitions, indistinct boundaries, and a pot pourri of methodological approaches.” The definition offered by the IOM in its 1979 report on Health Service Research is spare and serviceable: “Health services research is inquiry to produce knowledge about the structure, processes, or effects of personal health services.” Although some would find this definition too restrictive, it is broad enough to encompass most of what passes for health services research and consciously attempts to differentiate health services research from the products of biomedical science? <sup>6</sup>

Unlike the steadily increasing support for the biomedical research enterprise, support for health services research has waxed and waned depending more on political enthusiasms than any rational allocation of support to competing interests. The development of the **NIH** and the growth of the research agenda funded by the NIH are reflections of a broad societal commitment to basic research in medically related fields. Although that institution has been affected by the vagaries of the political process, the debate has focused primarily on how to cut up the pie rather than any challenge to the implicit notion that the pie should continue to grow. Biomedical research remains the dominant recipient of **NIH** research funding,’ despite the limited population impact of biomedical advances in reducing morbidity or prolonging life free of disabilities: especially among minorities and the poor.’ Health services research, by contrast, has never been particularly effective at gaining public allegiance. While it is very clear to the person with angina that the “Heart Institute” has an agenda relevant to his personal future, it is harder for congressmen and their constituents to see the personal significance of the National Center for Health Services Research’s (**NCHSR’s**) research agenda.

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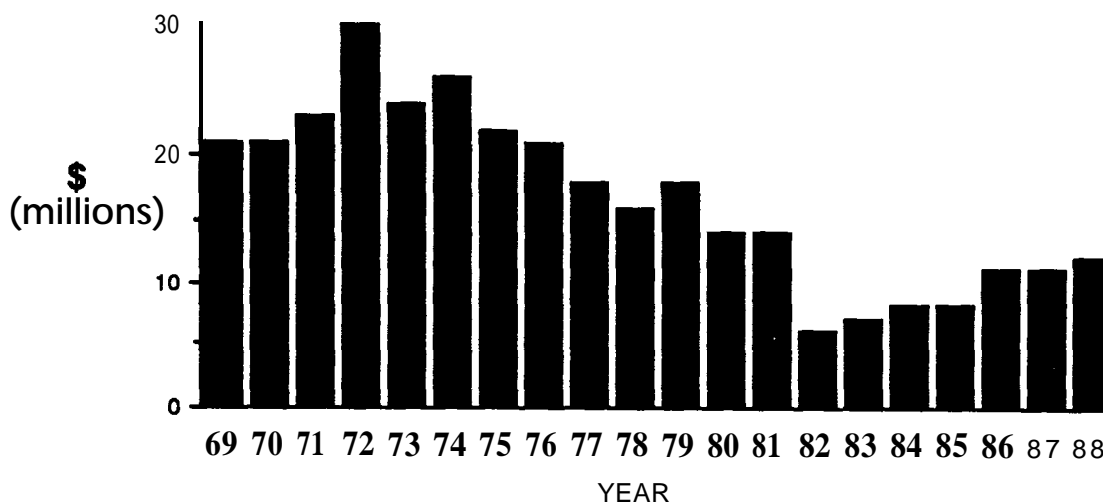
The penalty for this lack of a broad-based political constituency has been erratic funding. Although many private and public agencies provide support for health services research, much of this is narrowly targeted at the operational programs administered or paid for by the institutions sponsoring the research.” The NCHSR has stood alone as the only Federal agency that uses the NM peer-review model to competitively evaluate unsolicited proposals on the basis of their relative merit. Moreover, the NCHSR is an excellent bellwether for other societal funding for health services research, and the funding levels of this agency remain one of

the best ways to gauge the vital signs of this research endeavor.

Figure 1 shows the dollar amount expended from 1969 to 1988 by the NCHSR on research **grants**.<sup>12</sup> Although there has been a definite rebound since the nadir of 1982, the graph demonstrates the relative vulnerability of the NCHSR budget to external forces. This trend mirrors the funding patterns for health services research sponsored by the Nation’s largest health system, the Veterans **Administration**.<sup>13</sup> The **virtual** ‘elimination of the NCHSR as a reliable funding source in the early 1980’s

Figure 1

Annual Funding for Research Grants  
NCHSR, 1969-1988



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severely compromised the ability of seasoned health services researchers to garner support for their work. The lack of a stable source of research funding also prevented new investigators-particularly primary care physicians trying to establish themselves in academic settings-from turning to this agency as a source of support for developing their academic careers.”<sup>15</sup>

Despite the somewhat bleak experience of the past decade, the environment is changing rapidly. Public Law 101-239 replaced the NCHSR with the new AHCPR. Even though the new AHCPR budget will grow substantially with the infusion of new money for outcomes research,” the total amount of funds invested in health services research remains miniscule compared to the NIH budget.<sup>16</sup> Between 1975 and 1985, the NCHSR lost 75 percent of its budget for extramural research in constant dollars, while the NIH increased its budget by 27 percent.” Even with the expected significant increases in funding levels, the AHCPR and the HCFA together will spend little more on health services research in fiscal year 1990 than 1 percent of the amount that will be allocated to the NIH.<sup>18 19 20</sup> Using reasonable projections, the AHCPR and the HCFA together will spend approximately \$80 million on health

services research in fiscal year 1990, just over 1 percent of the amount that will be allocated to the NIH.<sup>18 19 20</sup>

Although it is heartening to note a rekindling of congressional interest in health services research, a substantial portion of that money is earmarked for outcomes research.” One of the reasons that outcomes research is beguiling is that it has immediate clinical implications and thus attracts the same political interest as the basic biomedical research supported by the NIH. Although primary care researchers will certainly be involved in this work, it is, in many ways, remote from the objectives of this Conference.

One could argue that outcomes research is something that should be funded from within the NIH; in many ways, it is the evaluation of the efficacy and cost effectiveness of the new biomedical approaches developed through basic and clinical research. As in pure biomedical research, studies of outcome use individuals as the unit of analysis rather than populations. If a large number of primary care researchers focus their efforts on outcome-related research-a rational application of Sutton’s Law-fewer existing and future researchers may work on issues related to medical underservice. Thus, it is

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important to resist the temptation to shape the health services research enterprise entirely according to the prevailing winds emanating from Congress.”

## **The Relative Importance of Research on Underserved Populations**

### **Determining the Research Agendas**

One of the most difficult conundrums facing the primary care disciplines is what constitutes their research agenda. It is considerably easier to define the clinical domain of the primary care physician than it is to specify the optimal areas of intellectual inquiry. A review of the literature in both family medicine and general internal medicine reveals that this is a topic that many have grappled with, but few have conquered.

There is general consensus within the American academic environment that the primary care disciplines need to have a defined research agenda.’<sup>22</sup> There are two major reasons for this assertion. First, it is argued that the primary care physician has a unique intellectual contribution to make to improving our understanding of health and

disease. Secondly, it is recognized that a successful research program is essential to the creation of a strong academic entity in the context of our medical schools. Research provides not only money with which to support faculty members, but the status and influence that is the coin of promotion in most of the settings in which primary care physicians work.

Having agreed that it is important to do research, the next step is to define the research agenda. There is remarkable similarity across the disciplines. Charles Lewis, in talking about the future of research in general internal medicine, says:

**The questions remain basically the same: What do doctors (internists) do? Are some better than others? What do we mean, ‘better’? How does the setting in which the doctor practices and the way he or she is paid affect what s(he) does? What kinds of things are worth doing to what kinds of patients?’<sup>23</sup>**

Compare this with some of the questions raised by the Study Group on Family Medicine Research:

**How does the personal physician become not only an effective care provider but also an essential component of the individual’s personal support system?**

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How can the results of modern medical **research** be made available to, and achieve their optimal effect on, each person who needs them? How can the provision of health care become more scientific, more effective, and more efficient while remaining **human**?<sup>24</sup>

Although pediatrics as a discipline has not created quite as cohesive a cadre of primary care academic pediatricians, the issues that confront general pediatricians are similar to those enunciated by their family physician and general internal medicine colleagues, with a focus on children and youth. Typical issues raised by pediatric researchers include: who provides care to children; accessibility, comprehensiveness, coordination, and quality of care; impact on utilization; preventive services; and health **status**?<sup>25</sup> Many of the questions posed in the pediatric health research literature are introspective, reflecting the struggle to define a unique niche for the primary care pediatrician. Examples include "How many pediatricians are functioning largely as subspecialists;" "To what extent does the training of pediatricians address achievement of the attributes of primary care;" and "How can pediatricians justify their assertions that psychosocial problems and developmental concerns are a proper concern of pediatricians and worthy of **reimbursement**?"<sup>25</sup> Increasingly, attention is

being paid to concerns such as access to health care for disadvantaged, chronically ill, and uninsured children; pediatric AIDS; health status; quality of care; and effectiveness of medical and preventive **care**.<sup>26</sup> Stat-field (1983) notes the negative impact of higher costs of care on poor children, including reductions in preventive care and in care-seeking behavior, with deficiencies in child health care most pronounced in central cities and rural areas and among the poor, blacks, and **adolescents**.<sup>27</sup> Again, these questions spill across the boundaries between clinical and health services research.

### The Research Literature of Primary Care

Given the similar perspectives of researchers across the primary care disciplines, what kind of research is actually being done, and how much of it relates to the topic of health care for the underserved? To answer this question, we must turn to the literature in the field, which for the purpose of this paper will be represented by the ***Journal of Family Practice***, the ***Journal of General Internal Medicine***, and ***Pediatrics***. Although much of the work of primary care physicians is published in other vehicles, the intellectual trends of the primary care disciplines are best charted from their specialty journals.



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It is useful to begin this exploration by first creating a research taxonomy by which we can sort through the papers we examine. Although no wholly satisfactory taxonomy exists, from an operational standpoint it makes sense to divide the medical research domain into three broad categories—basic science, clinical, and health services **research**.<sup>28</sup> It is immediately apparent, almost by definition, that primary care researchers are not involved in basic science research. Most of their work occupies that part of the spectrum **from** clinical to health services research. It is frequently difficult to assign unambiguously any given study to one of these categories, but it is illuminating to go through the exercise. In order to get a better sense of the research foci of the three **disciplines**—and their relationship to the topic of this working session—we used two contrasting schema by which we categorize research. Because the review was limited to titles only rather than actual content analysis, inferences were made about both methods and content from the title of the article alone.

The first taxonomy recognizes that one of the major characteristics of the contemporary research enterprise is the tension between the reductionist approach

prized by the basic scientist and the more global context of the health services researcher, with the clinical investigator often uncomfortably in between.’ Molecular biology is the best example of the reductionist approach. It has swept through many of the basic scientific disciplines, making it increasingly difficult to distinguish a department of biochemistry from a department of pharmacology. Health services researchers, particularly those who are interested in the problems of **underserved** populations, stand squarely at the other end of the spectrum, wrestling with such important but relativistic notions as quality, access, and cost efficacy.

Table 1 uses this parameter as a way to sort through the research in the three index journals. A two-dimensional array is created by further disaggregating the corpus of research according to the type of questions asked. Studies that seek to improve diagnostic techniques are separated from those aimed at therapeutic interventions, and so on. Categorization of the literature according to our schema was based on a review of titles of all original articles published in these journals during the period from 1986 to 1988 inclusive. A total of 1,112 article titles were categorized. The results for each discipline are displayed in Table 1.

TABLE 1

The Research Focus of Original Articles Published in the *Journal of Family Practice*,  
*Journal of General Internal Medicine*, and *Pediatrics*, 1986-88\*

		BREADTH OF RESEARCH Focus																				
		MOLECULE AND CELL			ORGAN SYSTEM			PATIENT			PATIENT COHORT			PATIENT-DOCTOR, PATIENT-FAMILY, PATIENT-SOCIETY			ORGANIZATION OF MEDICAL CARE AND MEDICAL EDUCATION			POPULATIONS		
Study Content		JFP	JGIM	Peds	JFP	JGIM	Peds	JFP	JGIM	Peds	JFP	JGIM	Peds	JFP	JGIM	Peds	JFP	JGIM	Peds	JFP	JGIM	Peds
Natural history of health or disease	%	1		1			1	1			7	8	49							1		1
Diagnosis	%	1						1			20	22	5	1			3	3	1	1	1	
Treatment	%							1			16	17	18	1	4		2	1	1	2	1	
Prevention	%										3	4	3		1		2	1		1		2
Ethical/philosophical	%										1	1		1	1		2	1				
Organizational	%										1	1		1	3		11			1		1
Miscellaneous	%										1	1	2	4		1	2	1	1	1		1
Educational	%													1			2	11	1			
Psychosocial	%										7	1	3	4	3		1	1		1		

\* This analysis is based on 187 original articles published in the *Journal of Family Practice*, 138 articles published in the *Journal of General Internal Medicine*, and 787 published in *Pediatrics*.

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What becomes instantly clear is that the research published in these three journals concentrates primarily on the natural history, diagnosis, and treatment of human disease in cohorts of patients. This forms the basic core of the research published in all three journals. Basic research is almost nonexistent, as expected, but true population-based research is not much more common.

In order to gain more resolution in this analysis of research topics, a second taxonomy was created, borrowing directly from the classification system used by the NCHSR to disseminate the result of research, which it considers to touch on primary care topics.<sup>29</sup> We have used the eight categories they have created and expanded their schema to include additional niches for purely clinical work, educational topics, and ethical and philosophical articles. In order to differentiate between original research and editorial opinion and literature reviews, we have classified only original research articles.

Table 2 presents the results of our analysis. First, health services research constitutes a major portion of the research output of all three disciplines and is the dominant approach in the family medicine and general internal medicine journals.

Secondly, very little of the original research touches on topics related to the care of underserved populations. Most of it is scattered fairly widely among the other major categories, particularly in the areas of provider studies, technology assessment, health status, patient-provider communication, and organization and cost of care.

Those few articles focusing on the health needs and access to care by underserved populations in the *Journal of Family Practice*, *Journal of General Internal Medicine*, and *Pediatrics* represented 2 percent, 1 percent, and 3 percent of the total number of original articles from each journal respectively. These articles were on a variety of topics and included the following titles: "Maternal Factors and Low Birthweight Infants: A Comparison of Blacks with Mexican-Americans" and "Perception of Family Practice Residents Regarding Health Costs and Poor Patients" in the *Journal of Family Practice*; "Withdrawing Routine Outpatient Medical Services: Effects on Access and Health" and "Detection and Treatment of Hypercholesterolemia in a Biethnic Community 1979-85" in the *Journal of General Internal Medicine*; and "Sheltered Homeless Families" and "Ambulatory Care Services for Economically Disadvantaged Children" in *Pediatrics*.<sup>30 31 32 33 34 35</sup>

TABLE 2

Health Services Research Topics Addressed in Original Articles  
Published in the *Journal of Family Practice*, the *Journal  
of General Internal Medicine*, and *Pediatrics*

		ORIGINAL ARTICLES		
		JFP N=187	JGIM N=138	PEDS N=787
I. HSR				
A. Provider studies	Percent Number	<b>19</b> (35)	<b>18</b> (25)	<b>1</b> (7)
B. Technology assessment	Percent Number	<b>21</b> (40)	<b>7</b> (9)	<b>7</b> (54)
C. Health promotion and disease prevention	Percent Number	<b>7</b> (13)	<b>6</b> (8)	<b>5</b> (40)
D. Health status	Percent Number	<b>10</b> (18)	<b>7</b> (9)	<b>10</b> (80)
E. Organization and costs of care	Percent Number	<b>7</b> (14)	<b>9</b> (12)	<b>3</b> (23)
F. Health needs and access to care (underserved)	Percent Number	<b>2</b> (3)	<b>1</b> (2)	<b>3</b> (24)
G. Patient-provider communication	Percent Number	<b>9</b> (16)	<b>4</b> (6)	<b>1</b> (5)
H. Patient compliance	Percent Number	<b>2</b> (3)	<b>2</b> (3)	<b>0</b> (1)
II. Clinical	Percent Number	<b>20</b> (37)	<b>30</b> (40)	<b>61</b> (479)
III. Ethical-Philosophical-Opinion	Percent Number	<b>1</b> (2)	<b>2</b> (3)	<b>1</b> (4)
IV. Educational	Percent Number	<b>2</b> (4)	<b>13</b> (18)	<b>1</b> (5)
V. Miscellaneous	Percent Number	<b>2</b> (4)	<b>1</b> (2)	<b>3</b> (24)

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By contrast, a greater fraction of the editorial comment focuses on the problems of underserved populations. This is clearly one of the major preoccupations of the academicians within these journals, although it does not form a major focus of their research.

### **Research Parallels in Primary Care: Different Perspectives or Unnecessary Duplication?**

In reviewing the articles that appeared in the three journals showcasing primary care research, it became evident that certain research topics were common to researchers in all three disciplines. Although it is not central to the topic of the Conference, it is intriguing to note the similarity of the approaches and the findings of primary care physicians in different disciplines and in different settings.

The topics common to all three specialties tended to deal with common clinical problems of primary care. Specifically, the following topics surfaced repeatedly in all three journals: depression, headaches, alcoholism, cigarette smoking, diabetes mellitus, sore throats, and other common infectious diseases. In most cases, one

could not tell from the title of the paper the discipline from which it emanated or the journal in which it was published. In fact, although there was a tendency for papers in a given field to be based on data collected in a family medicine, internal medicine, or pediatric clinic respectively, both the methods used and the conclusions drawn transcend specialty boundaries.

Juxtaposing titles shows the extent to which these papers resemble one another. For example, "Cigarette Smoking: The Physician's Role in Cessation and Management," appeared in the *Journal of General Internal Medicine*, "Smoking Cessation Counseling by Family Physicians" appeared in the *Journal of Family Practice*, and "Smoking Prevention: Behavioral Prescriptions for the Pediatrician" was published in *Pediatrics*.<sup>36 37 38</sup> Another example of the similar perspectives across disciplines can be found in the following pair dealing with hypercholesterolemia: "Recognition and Treatment of Hypercholesterolemia in a Family Practice Center" and "The Evaluation and Treatment of Hypercholesterolemia in Primary Care Practice," the first in the *Journal of Family Practice* and the second in the *Journal of General Internal Medicine*.<sup>39 40</sup> Many common themes echo across specialties.

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Although it is obviously appropriate that each discipline should approach these problems from its unique clinical **perspective**,<sup>5</sup> there is some concern about the extent to which there is duplication and fragmentation across disciplines.”<sup>41 42</sup>

Although the topics are interdisciplinary by their nature, it is extremely rare for authors to cross disciplinary boundaries in these three journals.” Moreover, to the extent that the citations reflect the intellectual excursions of researchers, many authors are either unaware of or ignore similar papers in companion primary care journals. Some of the papers—for example in discussion of the diagnosis of streptococcal throat infections—overlap to the point of redundancy, without any acknowledgment that other primary care researchers have trod this path before.

Each of the primary care disciplines has sailed across the currents of American medicine, trying to establish a steady course even as an occasional wave broke across the deck. Establishing a discipline-specific research agenda—and creating journals willing to publish these **studies**—has been part of the work of those who set out on these intellectual voyages. A certain amount of insularity has probably been necessary as each discipline tries to

establish adequate critical mass to support and sustain an ongoing academic effort.

However, even a cursory review of the research products of these disciplines suggests that it may be beneficial to bridge the waters that separate one primary care specialty from another. The strength of primary care is in its pragmatic ability to deal with a broad range of problems of illness and disease. Given the enormous similarity in the clinical problems that exists across the primary care disciplines, it is not surprising to find the same patterns in **research**.<sup>44</sup> Even though the suggestion that the primary care disciplines merge has generated enormous resistance, potential benefits have been noted for sharing of common insights and interests by researchers from the three disciplines.<sup>17 22 42 45 46 47 48</sup> Some have suggested that increased communication and professional collaboration among the three primary care specialties would improve medical care and training”<sup>42 49 50</sup> and would optimize primary care for inner-city **populations**.<sup>48</sup> Others have recommended combined residency and training programs that maintain the individuality of each discipline while integrating common threads so as to mutually benefit from each other’s **strengths**.<sup>48 51</sup> Finally, the establishment of a national center for health professions

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research has been advocated to serve as a central unifying body for coordination of research and program development in health professions education.<sup>52</sup>

### **Health Services Research as a Tool to Improve Delivery of Services to the Underserved**

Now that we have examined the intersection between primary care and health services research, we will consider current research, which uses health services research to explore the problems of underserved populations. As in the previous section, we used recent journal articles in selected index journals as an intellectual biopsy of the type of work that is being done and disseminated.

Although many journals publish occasional papers that deal with the problems of underserved populations from a health services perspective, a relatively small number of publications in the United States publish the majority of this work. For the purposes of this section we examined the tables of contents of the following journals from 1986 through 1988 inclusive:

***Public Health Reports***  
***American Journal of Public Health***  
***Medical Care***  
***Health Services Research***  
***Journal of Community Health***  
***New England Journal of Medicine***  
***Journal of the American Medical Assoc.***  
***Journal of General Internal Medicine***  
***Journal of Family Practice***  
***Pediatrics***

Relatively few articles in these journals dealt with problems of underserved populations. Those studies we did find fell into five general categories: utilization studies, generally documenting lower rates of utilization and impaired access for selected groups; the status of health services to defined ethnic and minority groups; studies of homeless persons and their health care needs; studies of rural populations; and a few papers dealing with the interaction of provider education and underserved populations.

The vast majority of these papers are descriptive. The typical paper is a survey of a specific population that either examines the access barriers experienced by a given segment of the population or documents the effect that unavailability of care has on health status. Many of the articles dealt with the impact of Government programs

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such as Medicaid, Medicare, or other categorical health programs or the status of institutions such as public health departments or hospitals. Very few papers actually tested specific hypotheses or generated answers to targeted questions about program innovations or clinical practice for underserved populations.

It is worth calling attention to the relatively few studies that clearly extend our knowledge of the health care system in relation to underserved groups. Four papers that provide concrete information for clinicians and policy makers include: "Uncompensated Care by Hospitals or Public Insurance for the Poor: Does It Make a Difference," "The Cost Effectiveness of Cervical Cancer Screening for Low-Income Elderly Women," "Physician Supply and Medicaid Participation: The Causes of Market Failure," and "The Association of Patients' Socioeconomic Characteristics with the Length of Hospital Stay and Hospital Charges Within Diagnosis-Related Groups."<sup>53 54 55 56</sup> In each case, the authors go beyond the qualitative, showing the quantitative relationships between structural elements of the health care system and the health care services needed or utilized by underserved populations. In several of the studies, the results are counterintuitive and challenge us to reframe our thinking about

providing services for these groups. These studies stand as examples of ways in which health care researchers can provide operational guidance for policymakers while expanding our conceptual understanding of this area.

The dominant theme of health services research papers of the past decade is that health care access has deteriorated for large segments of the population- partially due to the growing number of uninsured-and that this has occurred against the backdrop of a rapidly increasing doctor supply. In some **sense**, the entire decade of the 1980's can be viewed as a series of interrelated experiments in health services research. The conclusions to be drawn are somber but not unexpected. Public attempts to limit Government expenditures for health care can result in diminished access for vulnerable groups within society, such as the poor, rural dwellers, and members of racial and ethnic minorities. An adequate supply of medical manpower is a necessary but not sufficient condition for broad access to health care services; physician surplus and the presence of large underserved populations are not incompatible.

A quote from a study of the Veterans Administration population sums up the conclusions of many of the health services



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research papers published in the last 3 years. “These findings suggest that Federal health care programs are important to many indigent patients and withdrawing services may have deleterious consequences.”<sup>32</sup> There is something chilling about the banal self-evident nature of this modest conclusion. Is one of the major tasks of health services researchers to become chroniclers of the unraveling of our health care system? Why aren’t the methods of health services researchers being used to push further beyond explications of the obvious?

One concept worthy of emphasis in this context is COPC. COPC-while not a new concept-resurfaced vigorously during the 1980’s and is most evident in underdeveloped countries” and underserved communities.” COPC is in some sense an operational synthesis of the three topics we are discussing today. The major precept of COPC is that the primary care physician can take a population-based perspective in addressing the needs not only of the individual patient, but of the broader population of which he or she is a **part**.<sup>59 60</sup> This change in perspective provides a conceptual underpinning for the primary care physician to use health services research as a tool with which to address

clinical practice and the needs of underserved populations simultaneously.

Bosch and **Silver**<sup>61</sup> advocate working toward community health care “through the doorway of health services planning and research.” Although COPC provides a framework for health services research, the papers published to date are primarily descriptive in nature. Practices held up as examples of working models of COPC use epidemiologic and health services methods to define their target population and shape practice, but few studies use these natural laboratories to conduct structured research. A natural next step would be to use the nascent experiments in COPC as a foundation on which to build a coherent research agenda that cuts across the primary care disciplines.

The academic correlate of COPC is the recent focus on the responsibility for the academic medical center to play a role both in primary care and in the provision of health care to underserved populations.<sup>7 9 62 63 64</sup> This notion of the academic medical center as a public trust emerges during an era when they behave more like business concerns than nonprofit **organizations**.<sup>9 62 65</sup> As teaching and research become increasingly subservient to the clinical imperative that drives the finances

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of medical centers, medical centers have been quicker to abandon their traditional role of providing care to the underserved than to assume new responsibilities for nonpaying patients. Furthermore, the medical education system as it currently exists fails to provide the type of physicians who can meet the health care needs of the public.'

Despite this paradox, increasingly influential academic leaders have at least staked out a rhetorical position that would integrate public service into the traditional menu of basic research and medical education.' As in the case of COPC, we are still dwelling in the realm of the descriptive and the editorial. However, it may be possible to use these concepts as springboards from which to launch new experiments in the organization and functioning of academic health centers. As these innovations are introduced, coherent research programs-many based in primary care programs-can be established to draw conclusions from and generalize from the data that emerge.

## **Summary and Conclusions**

Conceptually, health services research, primary care, and the challenge of

providing health care to underserved populations are synergistic endeavors. Although one may argue about the relative importance of each element of the triad, there is a natural connection between the topics. Perhaps more importantly, there is an intellectual affinity among the people who actually engage in primary care or health services research.

Part of the problem is that the dominant culture devalues all of these undertakings. Health services research is not very well supported, and what support it does have is unpredictable and often narrowly restricted to predetermined topics. Primary care as a career path is in eclipse as a generation of medical students opts for narrow specialties and high salaries. And the renewed interest in underserved populations comes about primarily because the Federal policies of the last decade have greatly expanded the ranks of those who are underserved.

In the final analysis, any major change in this constellation of forces will require broad societal consensus about the relative value of competing endeavors.% We cannot simultaneously encourage the untrammled production of medical subspecialists-and reward them with both money and prestige-and expect debt-laden medical students to opt for primary care disciplines.

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We cannot hope to create talented cadres of health services researchers when funding is meager and insecure. And no matter how many physicians we produce, or how much elegant research we perform, we cannot address the social and health problems of disadvantaged populations without directing Government resources in that direction. This concept is best captured in the

recently issued Edinburgh Declaration: "Reform of medical education requires more than agreement; it requires a widespread commitment to action, vigorous leadership, and political will. In some settings, financial support will inevitably be required, but much can be achieved by a redefinition of priorities, and reallocation of what is now **available**."<sup>67</sup>

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# The Federal Investment in Primary Care Research

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Primary care research is important to many programs of the Federal Government because of its relevance to both clinical care and health policy. Although the definitions of “primary care” and “research” vary from agency to agency, there are many programs in and outside the PHS that support primary care research.

A summary of the levels of funding and the number of projects sponsored by these Agencies during fiscal year 1989 is found in Table 1. This analysis indicates that the \$15.38 million spent by the **NIH** during 1989 is the largest single contribution to primary care research. This figure was arrived at by searching the **NIH** grant files using the words “family medicine,” “general practitioner,” and “primary care physicians.” While little of this research was undertaken with primary care as its focal issue, much of it supported investigators whose identity and issues were primary care relevant.

The **HRSA’s** \$7.4 million was divided between Special Projects of Regional and National Significance of the Maternal and Child Health Program, Family Medicine Grants, National Research Service Awards in the Bureau of Health Professions, and five rural health research centers supported by the Office of Rural Health Policy. The most specified primary care research

investment in the PHS was made by the AHCPR (formerly the NCHSR), which spent \$5.13 million on investigator-initiated research relating to the practice of primary care. The \$3.43 million of IHS funding was spent on intramural projects related to health care of Native Americans.

This brief analysis provides some tentative insights into the nature of Federal funding for primary care research that may be of use to future investigators. While the **NIH** support for primary care research could be considered tangential, it is, nonetheless, the richest source of funding for investigations of clinical matters normally considered primary care. This observation emphasizes the importance of exploring, understanding, and using the **NIH** grants programs.

The AHCPR funding for “targeted” primary care research is significant and growing. The transformation of the NCHSR into the AHCPR, along with a significant budgetary increase in fiscal year 1990, commends this agency to the attention of primary care investigators. Moreover, the medical effectiveness and patient outcomes research mandate of this new agency to the attention of primary care investigators. Moreover, the medical effectiveness and patient outcomes research mandate of this new agency are pragmatically oriented and well

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suited to issues traditionally of interest to primary care researchers. Major studies are already underway on clinical entities common to primary care practice such as back pain and prostatism, and others are contemplated on issues such as otitis media and sickle cell disease. The medical effectiveness initiative offers major opportunities for primary care researchers.

This funding analysis indicated that very little support is currently being rendered to primary care researchers by agencies traditionally concerned with public health practice. The public health-primary care interface is one of growing interest in the wake of increased concern about access to care on a State and local level and the broad criticisms of the public health system articulated in the IOM report, *The Future of Public Health*. The CDC is a potential area for expansion of research in the population-based aspects of primary care. COPC is an approach to the delivery of clinical services that combines the population-based science of epidemiology with the practice of clinical medicine. It is an ideal instrument for undertaking primary care research with a population perspective on a community level. Various programs within HRSA, the IHS, and the CDC have shown an interest in COPC.

In summary, the following concepts might be explored and implemented in the interest of upgrading our national approach to research in the area of primary care.

- An annual, intensive course in primary care health policy and research methods might be offered for the purpose of developing a network of primary care research and policy leaders. This concept has been referred to as the “primary care/epidemic intelligence service.”
- Primary care research networks such as the Ambulatory Centennial Practice Network or the Dartmouth Coop might be expanded and replicated.
- The “common front” between family medicine, general pediatrics, and general internal medicine might be nourished and strengthened by an ongoing set of collaborative activities (conferences, journals, research projects) that would make use of the important commonalities among the three disciplines.

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- A program of research and educational activities might be undertaken between primary care researchers and public health researchers in areas such as prevention and population science.
- Primary care research, in all, stands to be an important new laboratory for clinical medicine and health policy-in the United States.

Table 1  
**Agency Totals for FY 89**

	Investment (\$'s in millions)	Projects
<b>Public Health Service</b>		
		<b>19</b>
<b>ADAMHA</b>	<b>3.50</b>	<b>37</b>
CDC	0.22	1
HRSA	7.40	<b>53</b>
<b>NIH</b>	15.38	60
IHS	3.43	<b>25</b>
<b>Total PHS</b>	<b>35.06</b>	<b>195</b>
<b>Other Agencies</b>		
<b>HCFA</b>	<b>0.33*</b>	31
VA	1.30	<b>12</b>
<b>Total Other Agencies</b>	<b>1.63</b>	<b>43</b>
<b>Grand Total</b>	<b>36.69</b>	<b>238</b>

\*Dollar figure not available for 27 **HCFA** projects.

Source: **The** respective agencies.



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# Primary Care, Medical Education, and Health Services Research: The Common Ground for National Health Policy in the 21st Century

John Noble, M.D., Boston University School of Medicine

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The stone which the builders rejected has become the corner stone.

**Psalms 118:22**

The goal of the Second Conference on Primary Care, sponsored by the HRSA, is to explore the relationship of research and education to the training of primary care physicians and medical practice in underserved areas of the country.

I have been asked to analyze the excellent summaries of Medical Education Research provided by Dr. Agnes **Rezler** and of Health Services Research presented by Dr. Roger Rosenblatt. From this analysis I will explore recommendations for new policies and activities that will increase the number of physicians in primary care practice and better serve the needy. The introduction to this presentation will be constituted by a brief summary of these two papers and two other recent publications that focus on the problems confronted by academic medical centers and the priorities of academic medical schools.

## Introduction

The stresses afflicting American academic medical centers in 1978 were described by Rogers and Blendon,<sup>1</sup> who traced the evolution of academic medical centers from their beginnings in the early years of the 20th century. Through the past 50 years these centers have grown tremendously and been stressed by the conflicting demands placed on them by the public, the Federal Government, third-party payers, industry, and research scientists. With the implementation of **DRG's** and other **cost-**containing measures during the past decade, the stresses on academic medical centers have been further increased. In this complex milieu, the training of medical students and residents for primary care has remained a low priority of these centers.

Bloom described the many conflicting interests that have affected medical schools during the past **decade.**<sup>2</sup> In his analysis of the medical school as a social organization, he concludes that "medical education's manifest humanistic mission is little more than a screen for the research mission that is the major thrust of the institution's social structure." This conclusion is based on the crowding out of the social responsibility of medicine to train for society's most basic



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health care delivery needs by the scientific mission of academic medicine.

Dr. Rezler summarized the outcomes of educational research in primary **care**<sup>3</sup> for this Conference. She observed that the demographic and personal characteristics of primary care physicians are identifiable but have been overlooked in the admissions process utilized at most medical schools. Thus, despite this knowledge, students are still being selected for medicine who are very likely to choose careers that will be specialty and technically oriented. She also reports that special primary care curricula can maintain career interest in primary care; however, it is evident from wide experience that they, alone or taken in aggregate with community preceptorships, departments of family medicine, general medicine, and general pediatrics, do not sway the career choices of medical students. The forces that are dissuading students from choosing primary care careers appear to be coming from other sectors.

After analyzing health services research, primary care, and the need for physicians to provide health services to the underserved segments of the American population, Dr. Rosenblatt concluded that “part of the problem is that the dominant culture devalues all of these **undertakings**.”<sup>4</sup> He

noted that extensive research in clinical and other health service areas is being conducted by clinical investigators in the primary care disciplines of family practice, general internal medicine, and pediatrics. The problem is not the dearth of research studies or interest. The limited impact of this research is directly related to the small amount of available financial support for health services research during the past 30 years.

We can conclude from these four reports that academic medical centers, medical schools, Federal and State Governments have not given the necessary priority or support to meet the Nation’s need for primary care physicians and services. These realities are not unique to the United States. They are present to varying degrees in many nations.

What is to be done? To answer this question we need to develop a clear vision of what will constitute effective primary care in the decades to come. Then we must identify and remove the disincentives that deflect young physicians away from primary care and into the choices of technically and specialty oriented careers.

In order to improve the quality of primary care services, the number of primary care

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physicians, and the care of the underserved populations, we must go back to basics to anchor our proposals in the true realities of primary care practice. Primary care practice, primary care teaching, and primary care research must be recognized as having a different foundation than biomedical research. While they encompass pathophysiology and medical therapeutics, the central focus of primary care is on patient care, not on basic science.

## Basic Strengths in Primary Care Practice

- **Quality** of care. The right to a common standard of health care has been widely accepted for many years in the United States. Access to care and the availability of health care services are accepted in a manner akin to the right to fly safely on commercial airlines. These rights were articulated by John **Millis** in 1971 as one of the reasons for the restructuring of the medical education system and the training of an increased number of primary care physicians? The failure to train physicians to deliver adequate primary care is the source of some of

the harshest criticism of American medicine, physicians, and Government.

Primary medical care is defined as being available, providing first encounter, acute, and continuing care that is effective in both sickness and in health. It should provide advocacy support and be satisfying to patients. It holds out the promise of safety and good health through the application of the art and science of medical practice. Within this promise is the age old concern to support not only the length but also the quality of a patient's life.

- **Quality of life.** This can be defined by three aspects of human life.<sup>6</sup> These aspects were described by Richard Ardrey in his book entitled "The Territorial Imperative." They are *Identity*, *Stimulation*, and *Security*. From these qualities spring the energy and experience that bring meaning to the lives of all people. The opposites of these conditions, *Anonymity*, *Boredom*, and *Stress* describe some of the greatest sources of misery and failure in life. Excellent primary care meets medical and social needs in ways that support the person's identity, their sense of being, confidence, and values. It provides for meaningful stimulation

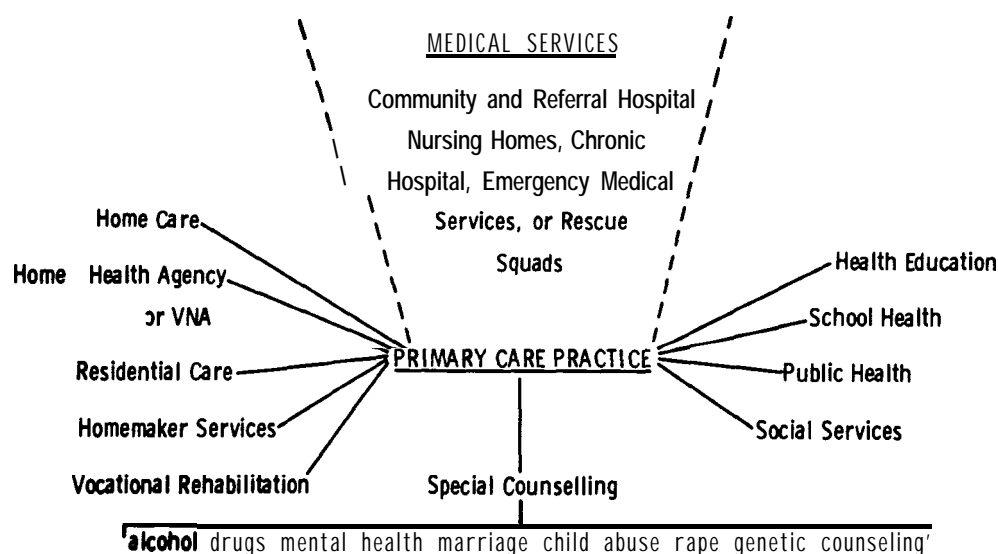
and for as much security as possible. These needs must be met for people in all parts of society. A nation that has a first-rate primary care system has developed the capacity to take care of itself and to support the maximum quality of life for its people.

- **Quality of Primary Care Practice.** Model primary care practices have been created by general internists, pediatricians, and family physicians in the past two decades. These practices can and do successfully provide care to people living in urban, suburban, rural,

and underserved communities. Working together with allied health professionals, physicians are often members of interdisciplinary teams. These teams are drawn from all of the health care resources of a community (figure 1). They are as vitally important to primary care as the interdisciplinary teams that support cardiac surgery and transplantation programs in tertiary hospitals. The care that primary care teams give covers the full range of health services extending from preventive guidance and screening through acute medical and mental health care to rehabilitation and continuing care.

**Figure 1**

### **Health Care Resources That Relate to Primary Care Practices**



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Primary care doctors in community-based practices take care of sick people. Unlike many preferred provider and managed care systems, long-established, community-based primary care practices usually take care of everyone in the town.

## Weaknesses of Primary Care Practice

The failure of primary care today can be attributed mainly to financial disincentives, the demands of practice, and inadequate support for primary care training in medical schools and teaching hospitals.

Many reports document the disparity between procedure and service-based reimbursement. While an RBRVS-based fee schedule may lessen the huge difference between the net compensation for technical physician specialists and primary care physicians, political compromises may yet reduce this legislative mandate to a continuation of the status quo. Rural and inner-city primary care appears to remain at the bottom of the fee scale.'

In 1978, Michael J. Dugan and I testified before the House Committee on Oversight and Investigations and its Chairman, John

E. Moss, on skyrocketing health care costs and the inadequate compensation for primary care services.<sup>8</sup> Dr. Dugan, a family physician, described the inflationary effects that Blue Shield, Medicare, and Medicaid had on his fee structure by paying more for patient care and laboratory services done in the hospital than in the **office**. Dr. Dugan urged a restructuring of the allowable fee system and stated, in 1978, that "If rewards are to be given, they should be given to the physician in the remote area or the ghetto or the poor economic area." The discrimination against primary care physicians and those who practice in rural areas persists in an exaggerated state 10 years later. Bamett and Midtling presented an up-to-date summary in 1989 that reflects these differences and documents the continuing decline of the earnings of primary care physicians relative to all other physicians (figure 2).<sup>7</sup>

This persisting gross discrimination against primary care physicians and primary care practice is having serious consequences. Medical students are not choosing primary care careers, the sons and daughters of physicians (who formerly constituted **one-third** of all medical school applicants) are not entering medicine as often, and a steady stream of general doctors are leaving

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**Figure 2**  
**Income of U.S. Physicians (as a Percentage of Average  
Physician Income) by Specialty and Practice Location, 1977-1986**

	1977-1 978, %	1995-1 996, %
INCOME BY SPECIALTY		
General / Family Practice	82.8	68.3
Internal Medicine	96.2	91.2
Pediatrics	76.5	68.2
INCOME BY GEOGRAPHIC AREA		
Nonmetropolitan Areas	95.9	86.8

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*'Data are an average of 2 years' surveys*

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primary care practice. Despite excellent practice models for delivering primary care, the financing of these basic services is undermining their effectiveness. When general internists on Cape Cod in Massachusetts and in many rural communities throughout the Nation have a hard time netting more than \$50,000 after expenses from a year of full-time, **60- to 80-hour** practice weeks, we have a serious problem.

## **Basic Strengths in Primary Care Education**

Medical curricula have been under constant revision during the past 30 years to achieve an optimal assimilation of basic scientific concepts and principles drawn from humanism, social sciences, and medical practice. **Rezler** and Bloom summarize these **efforts.**<sup>2 3</sup>

The discipline of family medicine has become well established throughout the Nation during this time. With general internal medicine and general pediatrics, there is now a strong cadre of teachers for all aspects of primary care medicine. The national leadership in curriculum and

faculty development has been provided by these departments.

The primary care training grants sponsored by the Division of Medicine of the HRSA constitute one of the most productive innovations of the past 15 years. Barbara Stat-field, Robert Friedman, and I studied the impact of this grant program on residency training in general internal medicine and pediatrics. We found that the graduates of federally funded primary care programs were more likely to choose primary care careers and to practice in areas with lower physician-to-population ratios than were graduates of traditional programs. An actual comparison of curricula and training experiences was made during site visits to 25 residency training programs in the two disciplines. Striking differences were noted between primary care and traditional programs (figures 3 and 4).<sup>9</sup> The federally funded programs had developed educational goals and objectives that were being fulfilled by **well-**designed clinical teaching and experiences. Nonfederally funded programs usually had none of these educational activities. A striking lack of community-based training was also identified in the nonfederally funded and traditional programs compared to the federally funded primary care programs.

Figure 3

**The Presence of Primary Care Program Elements  
in Federally and Non-Federally-Funded  
Residency Training Programs in Internal Medicine  
(Identified at Site Visits)**

Primary Care Program Elements	FF Programs							Non - FF Programs					
	A	B	C	D	E	F	M*	G	H	I	J	K	L
1. Written Primary Care Curriculum	+	+	+	+	+	+	+	-			-	-	-
2. Defined Behavioral Science Curriculum	+	+	+	+	+	+	+	-	-	-	-	-	-
3. Organized Section of Gen. Int. Med.	+	+	+	+	+	+	+	-	-		-		
4. Primary Care Faculty Development	+	+	+	+	+	+	+	-	-	-	-	-	-
5. Twenty-Five Percent Continuity Care	+	+	+	+	+	+	+	-	-	-	-	-	-
6. Primary Care Community Electives	+	+	+	+	+	+	+	-	-	-	+	-	-
7. Primary Care Steering Committee	+	+	+	+	+	+	+	-	-	-	-	-	-
6. Practice Management Seminars	+	+	+	+	-	+	+	+	+	-	+	-	-
9. Interdisciplinary Teams	+	+	+	+	+	+	+	-	-	-	-	-	-
10. Geriatrics Curriculum	+	+	+	+	+	+	+	-	-	+	+	+	-
11. Ethics Curriculum	+	+		+	+	+	+	-			+	-	
12. Faculty Preceptor Continuity in Clinic	+	+	+	+	+	+	+	-	+	+	+	+	
13. Primary Care Research	+	+	+	+	+	+	-	-	-	-	-	-	-
14. Primary Care Family Med. Relationship	+	+	+	+	-	+		-	-	+	-	-	-
15. Minority Recruitment	+	+	+	-	-	+		-	-	+	-	-	-

\*Osteopathic Internal Medicine, all other visits were to **allopathic** programs.

Figure 4

The Presence or Absence of Primary Care Program Elements in  
Federally and Non-Federally-Funded  
Residency Training Programs in Pediatrics  
(Identified at Site Visits)

Primary Care Program Elements	FF Programs						Non-FF Programs					
	N	P	Q	R	S	O*	V**	Y**	T	u	w	x
1. Written Primary Care Curriculum	+	+	+	+	+	+	+	-	-	-	-	-
2. Defined Behavioral Science Curriculum	+	+	+	+	+	+	+	+	-	-	-	-
3. Organized Section of Gen. Pediatrics	+	+	+	+	+	-	+	+	-	+	+	-
4. Primary Care Faculty Development	+	+	+	+	+	-	-	-	-	-	-	-
5. Twenty-Five Percent Continuity Care Experience	+	+	+	+	+	+	-	-	-	-	-	-
6. Primary Care Community Electives	+	+	+	+	+	+	+	-	-	+	-	-
7. Primary Care Steering Committee	+	+	+	+	+	-	-	-	-	-	-	+
6. Practice Management Seminars	+	+	+	+	+	+	+	-	-	-	-	-
9. Interdiscipline Teams	+	+	+	+	+	-	+	+	-	-	-	-
10. Developmental and Behavioral Curriculum	+	+	+	+	+	-	+	+	+	+	-	-
11. Ethics Curriculum	+	+	+	+	+	-	-	+	-	-	-	-
12. Faculty Preceptor Continuity in Clinic	+	+	+	+	+	+	-	-	-	-	-	-
13. Primary Care Research	+	+	+	+	+	-	-	-	-	-	-	-
14. Primary Care Family Med. Relationship	+	+	+	+	-	+	+	+	-	-	-	-
15. Minority Recruitment	+	+	-	+	+	+	+	+	+	+	-	-

• Lost Federal Grant (1987)

• \* Previously Funded by Federal Grant



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The vast majority of residents in family medicine, general internal medicine, and pediatric training programs enter primary care practices-and many settle in inner-city, rural, and other underserved areas. Studies of family practice and surveys of general internal medicine and pediatrics reveal that excellent educational models have been developed to improve primary care training. There are weaknesses, however, that are limiting their effectiveness.

### **Weaknesses in Primary Care Education**

- Primary care education is often viewed as important in theory but difficult to define beyond its relationship to ambulatory care settings. The concept of primary care and a curriculum to teach it must be centered in real world primary care practices. While good models for teaching residents in office practices and health centers have been developed, there are no models for providing large numbers of medical students with extensive training in these settings. Patient volume, patient attitudes, space constraints, and travel requirements are just a few of the problems that must be overcome. The new initiatives in community-based medical education that were announced recently by the **W.K. Kellogg Foundation** and by The Robert Wood Johnson Foundation may help to create new approaches and models that can provide optimal primary care experiences for medical students.
- A second weakness is the inability to finance primary care teaching from the revenues of primary care practice. Colwill reports that it costs an average of \$17,000 per full-time student per year in lost revenue for a private practice to train one F.T.E. student.” The problem of paying for primary care teaching is evident in the Title VII primary care training grants. Funds are used overwhelmingly for faculty support. Despite the grant requirement that programs attain self-sufficiency, the potential for actually doing so is almost nil under current reimbursement policies for graduate medical education and primary care practice.
- The influence of nursing and the allied health professions on medical education remains minimal despite the fact that comprehensive primary care can only be provided if physicians work

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effectively with fellow health professionals. To truly improve primary care training, it will be necessary to expand interdisciplinary participation in resident and student teaching.

- Training physicians to meet the primary care needs of the people and to provide access of care to all has been recognized by all Federal Administrations as a national policy since 1970. The Federal Administration has not supported primary care education programs, however, for the past 10 years in a consistent manner. Once again, no funding is recommended for primary care training in the 1991 budget proposed by President Bush.

### **Basic Strengths in Primary Care Research**

The vigorous development of primary care and health services research in the past 20 years has been described by Dr. Rosenblatt. Technology assessment and the Clinical Efficiency Assessment Program (CEAP), sponsored mainly by general internists in the American College of Physicians, have also contributed much knowledge and

insight into new diagnostic and therapeutic modalities. As Rosenblatt reports, there are now many instances where new understanding of clinical illness and health care problems have been contributed by primary care investigators. The reorganization of the Federal support for primary care research under the new **AHCPR** is intended to consolidate Federal initiatives and support for problems related to the quality, delivery, and costs of health services. If the funding levels recommended for this Agency are actually met, health care research will be greatly enhanced.

### **Weaknesses in Primary Care Research**

- Laboratory-based academicians and specialists view primary care research pejoratively. Primary care and health provider research are considered to be soft sciences, and primary care investigators are not considered to be productive. These biases are derived in part from the fact that many laboratory experiments can be completed in a few days or weeks while comparable health care research studies usually require years to complete.

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- The amount of funding per grant, indirect overhead, and the length of the average awards are usually less for health services than for laboratory-based studies. There are essentially no career development or established investigator awards for health services researchers. And, lastly, the Federal Administration has repeatedly cut the health services research budget far more in proportion to the NIH budget.
  - There is widespread concern that the new agency AHCPR will be driven by the agendas of Medicare, HCFA, and cost containment. Support for individual investigator-initiated project proposals must be protected against these strong interests. As Sir Alexander Fleming noted in 1945, it is the “primary initiation of something quite new that is the contribution of the independent scientist.”

From this assessment of the basics in primary care, we can make seven observations:

- Fewer students are choosing primary care careers.
- The primary care disciplines of family medicine, general internal medicine, and

pediatrics are well-established but are not expanding.

- The Federal financing of primary care training has decreased over the last decade. The present and past Federal Administrations have stated that primary care and access are a national priority, but in each budget proposal, the President and the **Office** of Management and Budget have recommended no funding or significantly reduced funding.
- Despite the rising cost of health care and concerns about deteriorating quality of care, Federal support for health services research is marginal and has been declining.
- The number of near poor, underserved or unserved men, women, and children is rising throughout the United States.
- Academic medicine has not responded with significant support for the primary care disciplines of general internal medicine, general pediatrics, and family medicine. A strong commitment to primary care education has not been made in academic medical centers.

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- The fee schedules of third-party payers and the Federal Government discriminate significantly against primary care physicians and practice.

There is nothing wrong, I have concluded, with medical education research, primary care curricula, or primary care research. However, the tenuous and parsimonious commitment of academic medicine and the Federal Government toward primary care training and practice have seriously compromised our ability to capture the career commitments of students and residents and to meet the Nation's need for primary care physicians and service.

And among primary care physicians and educators *time, energy, and patience* are waning. By way of an analogy, assume that we, in this workshop are a group of Kazak fisherman, convening after 20 years to review our annual catch. Each year we have met, submitted reports, and urged the authorities to direct an adequate supply of water to flow into our lake to no avail. And so, during the coffee break we all go topside on the foredeck of our rusting boats to surveil the sandbox that was once our Aral Sea.

A similar scenario is emerging in the decline of primary care services and

providers in America. In almost every medium and small town, people want good doctors and in towns where there are none, almost any doctor will do. This situation is reaching a crisis. The predictions of a physician surplus that were made 4 years ago are no longer valid and primary care services are less **effective**.<sup>12</sup>

What are some overarching concepts that could be developed to address the emerging crisis in primary health care and advocated by the attendees of the Second HRSA Conference on Primary Care? I will present my thoughts as recommendations for the official report of this Conference. The challenge for the Conference leaders and attendees will be to make contributions that have a lasting effect and lead to the establishment of a vital, strong primary health care system for the United States of America.

### **Concepts to be Included in the HRSA Report on Primary Care of 1990**

**The** Conference report should be drafted to have wide impact on primary medical care. It could improve primary care in the same way that the "*Chadwick Report* on the

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*Sanitary Condition of the **Labouring** Population of Great Britain*” laid down principles of public health in 1842 to prevent the ill health produced by the appalling sanitary conditions caused by the industrial **revolution**.<sup>13</sup> The Conference report should be drafted to have the impact of the Flexner **report**<sup>14</sup> and the relevance of the **Millis** report on launching primary care education.’ This report must address the two major causes of the primary care health crisis. First, the movement of the dominant research mission of academic medicine away from the bedside into basic research laboratories, which has left clinical academic medicine without a strong organizational or conceptual foundation. Second, the unwillingness of Federal agencies and academic institutions to recognize the central importance of primary care by providing equitable support for primary care teaching, research, and reasonable reimbursement for primary care practice.

The report should be based on three premises.

- . Good personal, community, and environmental health **are interdependent** and vitally important determinates of the health and strength of a nation.

- Primary care must be established as the central concept of the health care system-its services and financing. Primary care can not be relegated to a secondary, ancillary position below technical-based speciality services.
- Medical and surgical specialties and medical research derive their value from the extent to which they improve a person’s primary health. The benefits of technology and medical science are greatly reduced when primary health care services and quality of life are poor.

Throughout the 1990’s and into the early 21st century we must restore primary care in its full dimensions to serve as the cornerstone of the entire health care system. In the words of the ancient psalmist:

**The Stone which the builders rejected is become the comer stone.**

**Psalms 118:22**

The report should present a national action agenda for the DHHS and the Federal Administration for academic medical centers and for medical schools.

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- A consensus should be established within the Federal Administration, Office of Management and Budget, and DHHS that the primary health services of the Nation and primary care training programs will be designated as essential priorities and will be supported in a coherent and continuing manner for at least 15 years.
  - The Federal Government and current administration should establish a strong financial commitment to meet the primary health care needs of the American people by enacting:
    - Fair and rational reimbursement policies for all third-party payers to remove the discrimination against primary care physicians and services.
    - Primary Care Training Grants in Title VII and Title VIII of the Health Professions Educational Assistance Act should be significantly expanded to establish model, community-based resident and medical student training programs in the medical schools and teaching hospitals of every State.
    - Modest **capitation** payments or an analagous payment should be paid to programs that train students and resident physicians in underserved rural and inner-city primary care practices.
  - A significant proportion of the revenue from the Medicare indirect graduate, medical education adjustment be directed to financing services at clinics and **community-**based ambulatory sites used for training primary care physicians.”
  - Medicare payments for the direct costs of graduate medical education should be adjusted to create an incentive to establish residencies in primary care and to place resident physicians in primary care ambulatory settings.”
  - The AHCPR should encourage a broad range of research studies. Individual investigator-initiated research proposals, career development awards, and established investigator awards should receive a significant proportion of the Agency’s funding on an ongoing basis.
  - The HRSA should develop a task force to work with the academic leaders of medical schools to accelerate the development of primary care curricula, experience, and teaching.
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- . Reorganize pre-medical education requirements to encourage a wider range of students to consider medicine as a career.
  - . Encourage the design and teaching of a curriculum on cost containment with the intent of switching the emphasis on cost containment from sanctions and penalties to education, guidelines, and assistance for physicians.
  - . Develop an extensive student loan abatement program for physicians who will commit 2 to 4 years of service as a primary care physician in underserved areas.

## Conclusion

Primary care medical services are not meeting the needs of Americans. The

health care of large numbers of citizens is grossly deficient. The policies of the Federal Government and academic institutions are not addressing these realities and providing effective corrective action.

A nation that has a first-rate primary care system has developed the capacity to take care of itself and to support the maximum quality of life for its people. **The** establishment of concordance and a truly national policy on primary care are needed.

During the 1990's and into the early 21st century we must restore primary care in its full dimensions to serve as the cornerstone of the entire health care system.

Implementation of the action agenda that is described in this paper will initiate a sequence of changes in the American health care system that will benefit all of our people.

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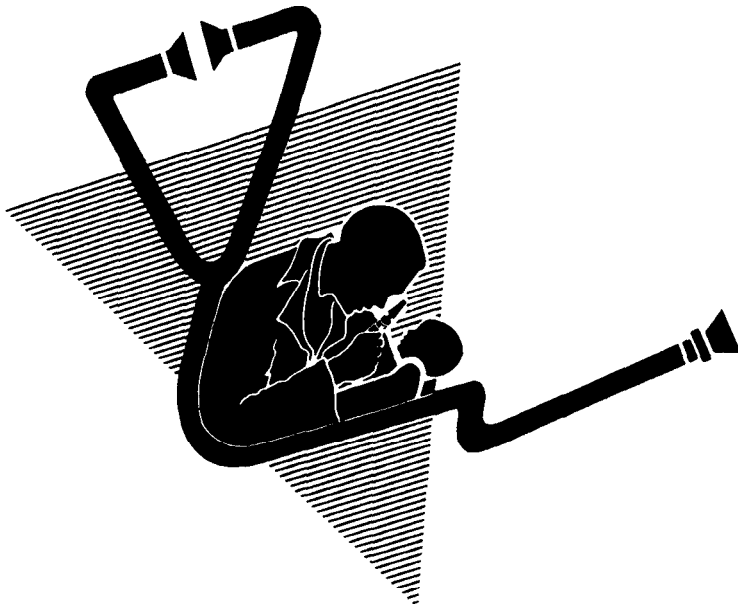
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## Addendum





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# States' Commitments to Training Primary Care Practitioners

Sunny G. Yoder, Health Policy Consultant

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This paper examines current State commitments to furthering access to primary care services for the underserved. These impressions were formed from discussions with State officials, medical educators, and other knowledgeable observers in several States. These discussions were augmented by a review of reports on these matters from these States and of documents published by interested organizations such as the American Academy of Family physicians. Because the impressions reported here are the result of a process of information gathering that has been more journalistic than scientific, they should be treated more like hypotheses than conclusions. Certainly they cannot be said to represent a "state of the States," since only a few States have been included. These were chosen for their social and geographic diversity. Some attention also was given to their fiscal condition, since programs supporting primary care training presumably face special pressures in States experiencing or anticipating fiscal distress.

The overall impression resulting from these inquiries is that these States' commitments to primary care training are strong and could become stronger as States increasingly look to primary care practitioners (not only doctors) to help meet the needs of the underserved. The care of these populations

is presently a high priority. Higher education, too, is high on the States' agendas. At the same time, resistance by medical schools and competing claims on State resources act as a brake on growth of State expenditures for this purpose. In this paper, this overall impression is supported and enlarged through, first, an overview of the various approaches the selected States are employing to foster primary care training and service. Next, there is a discussion of the factors that appear to be influencing these States' commitments to primary care. Last, there is a description of the programs in place and under consideration in the selected States: Tennessee, New York, California, Illinois, and Texas.

## State Approaches

The States are employing various strategies to get more primary care services available to underserved populations. Some of these strategies are of long-standing, dating from the 1960's; others are brand new. Some are similar to the Federal programs under Title VII that are administered through the HRSA. Others are unique to the individual States. The strategies range over the spectrum from recruitment of medical students to improving the incomes of

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practitioners. Many focus on residency training.

The types of strategies employed include the following:

- **Selection and encouragement of medical students from groups more likely to serve where there is greatest need.** Either by encouragement or State mandate, medical schools are being urged by State governments to recruit students interested in practicing in underserved areas-both urban and rural. Scholarships linked to placement in these areas, similar to the NHSC, are being used to strengthen students' commitments. As with the NHSC, the effectiveness of the scholarship programs has been mixed.
- **Exposure of medical students to primary care practice in underserved areas.** Early exposure to primary practice tends to enhance students' interest in this career. The legislatures in both Tennessee and Texas have recently mandated their State medical schools to provide this exposure to medical students. Tennessee provided some funds for this, while Texas intended the schools to use existing funds.
- **Direct support of primary care residency programs.** Grants to or contracts with residency programs in primary care specialties are being employed in all the contacted States. These grants and contracts are separate from State funding of medical school departments of family practice. They primarily fund family practice residencies, although New York intends to expand their program to encompass general internal medicine and general pediatrics. These grants have several objectives. At a minimum, they are intended to increase the number and size of primary care residency programs in the State. However, they are also used to influence the selection of residents and to bring residency training to underserved areas. This latter objective has increased in importance. Whereas States once may have supported family practice programs mainly because family medicine was considered a desirable form of practice, they now support them mostly because they expect them to alleviate the problems of access. Residents are coming to be seen as primary care providers and relatively inexpensive ones at that.

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Recently, State funding for these programs has not decreased in any of the five States and has increased in three of them. Observers in Illinois and New York expect the funding level to increase, in the face of shrinking State revenues in New York. For the most part, in periods of budgetary crisis, such as in Texas from 1985 to 1989, earmarked funding for primary care residency training has remained constant. However, in Illinois, authorized family practice grant programs received no appropriations for 4 years in the early 1980's, when the State budget was very tight. In New York, the funding level for the program was halved in 1982, after 8 years of funding at a constant level of \$1.25 million.

The administration of these special programs supporting primary care residencies is varied. In some States, the funding comes from the State's health budget, and the program is administered by the State health department. In California, it is operated by a special Health Manpower Policy Commission that is part of the Office of Statewide Health Planning and Development. More commonly, though, the programs are part of the higher education budget, and their administration is through the higher education board or commission of the State. This is true in New York,

Texas, and Tennessee. Illinois has a hybrid arrangement: The programs are in the higher education budget but are administered by the department of health.

The funding source and locus of administrative responsibility are important. The programs may be "safer" in one program area than another. For now, the growth in Medicaid costs is putting great pressure on non-Medicaid health expenditure for higher education. Thus, primary care residency programs funded out of education budgets are likely to fare better in competing for State dollars. At the same time, the ideology, culture, and political "clout" of the agency where the program is administered influence the program's nature and perceived success.

A model not represented in any of these five States is that of Iowa and Nebraska, where special State programs supporting family practice residencies are funded through and administered by the State's medical school.

- **Improve the financial position of new practitioners.** States are using a number of mechanisms to reduce the financial burden on primary care practitioners in underserved areas. Loan forgiveness is one common

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mechanism. In Tennessee, for example, the Health Access Program enacted in 1989 provides for up to \$50,000 in loan forgiveness to primary care doctors who agree to practice for **2-1/2** years in an underserved area. Texas offers \$9,000 per year for up to 5 years, but rather than an advance contractual agreement the State simply pays the money at the end of each year served. For a Federal grant, the repayment amount is doubled for doctors who serve in areas of exceptional need.

Other mechanisms also are in place or just starting. States are bearing the extra malpractice insurance premiums for primary care practitioners who deliver babies. The new, innovative Tennessee program offers direct subsidies to primary care practitioners (including nurse practitioners) who locate in underserved areas. The States will award start-up grants of up to \$25,000 that can be used for supplies and equipment for a new practice. It also will provide income subsidies, paying the practitioners the difference between their annual earnings and 75 percent of the national average for their specialty.

Finally, New York is looking to modify its Medicaid payment rates in ways that will lessen the financial penalties long associated

with service in certain rural and inner-city areas. In conjunction with Medicare's RBRVS for physician payments, such State efforts are likely to increase the earnings potential of primary care practitioners over time.

- **Reduce the nonfinancial burden on primary care practitioners.** States are starting programs, sometimes called **locum tenens**, to lessen the burden of all-day, all-year practice especially in rural areas. "Substitute" physicians or other arrangements allow the primary care practitioner to be away 1 month per year for vacation or continuing education. These arrangements provide opportunities for medical school faculty, residents, and medical students to experience this type of practice first-hand.

## **Factors That Appear to Influence States' Commitments**

In the course of these discussions, several factors seem to account for States' commitments to programs to improve access to primary care services, particularly to those programs that support primary care residency training: (1) the intensity of

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competition for State funds; (2) the urgency of the problem these programs address; (3) the effectiveness of the programs; and (4) the presence of politically powerful advocates.

Perhaps it goes without saying that States in fiscal distress may reduce their commitments to supporting primary care training programs. In fact, this is exactly what occurred a few years ago in Illinois. However, in Texas, where the State budget was severely 'constrained from 1985 to 1989, funding for the family practice grants remained constant. The 1990 budget increased the funding 7.9 percent to \$7.8 million. Although both Tennessee and New York are facing significant revenue shortfalls, both States are increasing their commitments in this area. Tennessee is accomplishing this through creative financing, using its "unclaimed funds" account. This account comes from moneys that revert to the State from, e.g., unclaimed bank accounts. New York, on the other hand, is using State general funds but redirecting some of those funds to this purpose. Thus, other factors serve to mitigate the pressure on primary care programs even in times of fiscal stress.

One of these factors is the urgency of the problem being addressed. In these States,

the problem of access to care for the underserved is presently given high priority. Special task forces on rural care have been at work in Texas, Tennessee, and New York. These bodies have pointed to primary care as a crucial part of the solution and have called for special measures to increase the availability of primary care practitioners in rural areas. Inner-city underserved also are receiving renewed attention by the States.

Not only is the access problem being accorded a high priority for these States, but the training and deployment of primary care doctors is widely viewed as an effective solution to the problem. In some cases, this perception is based on outcome data. The Texas Higher Education Coordination Board, for example, reports that almost 80 percent of graduates from family practice residency programs funded through State grants have remained in the State, and over half of those are practicing in shortage areas. In South Texas, an area of exceptional need because of general poverty and the influx of immigrants over the Mexican border, 31 of 42 graduates are practicing in the Rio Grande Valley. In California, the program reports an increase in the number of primary care training programs and residents. Beyond that, the effectiveness of the program is measured



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principally on the nature of the training rather than on the ultimate practice locations of graduates. The Illinois programs are too recent to provide data, but are viewed enthusiastically as a means to provide services to high-need areas. The location of residency training programs in these areas is seen as a mechanism of great promise.

The commitments and leadership of politically powerful individuals have a great deal to do with how these programs fare. The Governor of Tennessee, Mr. **McWherter**, has given substantial political weight to new initiatives, which are being financed with “found” money. Influential legislators in Texas have mandated new actions, not all of them with new money, to redirect State resources to primary care for the underserved, particularly in rural areas. Credible program managers and analysts in the State bureaucracy provide important information to the executive and legislative branches.

## Descriptions of State Programs

### Tennessee

The Tennessee legislature enacted two new programs in 1989 that are intended to

improve access to doctors’ services for the underserved.

A system of twelve Community Health Agencies was established to address the problem of access to health services for the indigent. (Persons whose incomes are at or below 100% of the poverty level and who are ineligible for Medicaid are considered indigent. There are approximately 300,000 people in Tennessee who meet these criteria.) These **CHAs**, appointed by the Governor, serve the four urban and eight nonurban areas of the State. Composed of doctors and other health professionals, as well as people drawn from the hospital sector, from consumers of health services, and from minority populations, each agency is to carry out a health care needs assessment for its area. The agencies are to develop recruitment programs to bring needed health personnel to their communities. They also will elicit volunteer services for indigent people from existing health personnel. Certain “designated volunteers” can be awarded grants of \$3,000 to \$5,000 per year to help defray out-of-pocket expenses for treating indigent patients, e.g., diagnostic testing. The State’s tort coverage will extend to these volunteer doctors when they are treating eligible patients.

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Also under the authority of the Community Health Agency bill, the State Department of Health and the Environment provides grants to medical schools to cover travel costs for residents to training sites in rural areas. The grants do not pay for faculty, which are provided by the schools.

The second program enacted in 1989 is the Health Access Program, which provides financial and other incentives to encourage doctors in primary care specialties (family practice, pediatric, internal medicine, obstetrics, and psychiatry) to practice in under-served areas. Half of the program's funding each year is to be placed in a trust fund that will grow over time and support future health access initiatives. The other half may be used to assist practitioners who locate in areas lacking medical services.

This assistance can take several forms:

- Repayment of outstanding education loans of up to \$50,000 for primary care doctors who agree to locate in **under-**served areas for 2.5 years. The doctors sign a contract with the State that obligates them to remain or repay the State funds with a substantial penalty.
- Start-up grants of up to \$25,000 to pay for supplies and equipment for new

practitioners; these grants also require service of at least 2.5 years.

- Income subsidies for practitioners in underserved areas who earn less than 75 percent of the national average for their specialty. The subsidies are available for up to **5** years.
- **Locum tenens** coverage for up to 4 weeks a year to allow doctors in solo practice time away for continuing education and vacation.
- Technical assistance with the business aspects of setting up and operating a medical practice.
- A "trust fund" into which the State pays \$10,000 per year for the 5 years after the initial 2.5 year period. At the end of the 5 years, the fund, with accumulated interest, is transferred to the doctor.

These programs, administered by the State Health Department, are funded from the State's "unclaimed funds," moneys that previously went into State general revenues. The first year funding is at \$7.5 million, of which \$1.25 million is for the Health Access Program.

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The near-term outlook for these programs is good. Governor **McWherter's** Administration, which supported the programs, is likely to be reelected. The unclaimed funds from which the programs are financed are not expected to decline and may increase as these funds come to be identified with a worthy cause. Over the longer term, support for these programs will depend upon assessments of their success in meeting their objectives and upon the priority given to this use of State resources.

Tennessee does not provide special support for primary care residency training at its two State medical schools; they are funded through the higher education appropriations process. However, the Higher Education Commission has contracts with **Meharry** Medical College, a private institution, for family practice and preventive medicine programs. For 198990, the State contract provides \$324,000 to Meharry's family practice residency training program. The level of State support through these contracts has been growing slightly over time.

An October 1989 report by the Task Force on Primary Health Care in Rural and **Inner-City** Areas recommended a number of actions by health professions schools in the State:

- Establish a pilot COPC program at each of the three institutions in the State with accredited family medicine residency programs.
- In cooperation with the Tennessee Department of Health and Environment, develop a **locum tenens** program at academic health centers so that academic physicians may provide relief for physicians who practice in rural or inner-city areas.
- Increase the number of family nurse practitioners trained in the State.
- Request State-supported medical schools to review admission policies and consider preferential admission of students from rural and inner-city areas.
- Encourage local communities to "grow your own" by identifying and providing scholarship support for local students to attend health professions schools.
- Contract through the Southern Regional Education Board for entering spaces at schools of osteopathic medicine located in **SREB** States.

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To date, these recommendations have not been incorporated into legislative action.

### California

California's Family Physician Training Act of 1973 established a program of support for family practice residency programs and created the Health Manpower Policy Commission to administer the program. The program is currently funded at \$2.88 million. Its funding has been essentially frozen at this level since **1981-82**.

The program awards capitation grants of \$17,000 per resident to family practice residency programs. In making these awards, the Director of the **Office** of Statewide Health Planning and Development is to give priority to programs located in underserved areas. Priority consideration is also given to programs that demonstrate success in placing individuals in medically underserved areas, in attracting persons from minority groups, and in attracting persons from medically underserved areas. Residency programs receiving these awards may use the funds as they see fit, although they are strongly encouraged not to use them for residents' stipends.

In addition to capitation support, the Family Practice Training Program authorizes funds for special programs to, for example, foster team training of family physicians with physician assistants or nurse practitioners, develop new family medicine residency programs, or develop undergraduate medical education programs in family medicine.

In fiscal year **1989-90**, the program provided grant support to 23 family practice residency programs, for a total of \$2.3 million. An additional **\$624,000** supported six training programs for physician assistants and nurse practitioners. (California Health Manpower Policy Commission, page 79.)

In its 1989 report to the State legislature, the Health Manpower Policy Commission points to the contribution of the Family Practice Residency Program to the large increase in family practice residency positions in the State. When the program began in 1975, it funded the addition of approximately 100 positions to the existing supply of 211. By 1986, the State had a total of 611 nonmilitary family practice positions, **90** of which were supported by State capitation funds.

The effectiveness of the program in bringing family physicians to underserved

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areas is not documented in the annual report to the legislature, nor is its success at recruiting minority groups and individuals from underserved areas to family practice programs.

Funding for the program has been level for a number of years while the State's higher education budget has risen.

### **Illinois**

**The** State has two special mechanisms for supporting primary care training: scholarships for medical students linked to subsequent service in underserved areas and grants to residency training programs.

Under the authority of the Family Practice Residency Act of 1979, the State provides scholarships for medical students who agree to practice in primary care in under-served areas. The program, which is similar to the NHSC is currently funded at \$2.3 million. Students from minority groups receive priority in scholarship awards; 285 students and residents are currently in the program.

The Family Practice Residency Act also authorizes grants to family practice residency training programs in order to expand these programs into medically underserved areas. The grant program is

currently funded at \$650,000. Training programs receiving these grants are not allowed to use them to pay residents but otherwise may spend the grant funds as they see fit.

The scholarship and grant programs authorized under this legislation are administered by the Illinois Department of Health. However, they are actually funded out of the State Board of Higher Education budget.

Another legislative authority to support primary care training was enacted in the early 1970's. The Illinois Health Service Education Grants Act authorizes State subsidies for Illinois citizens to study medicine and other health fields in private educational institutions. Under this authority, the State supports residency programs in primary care (family practice, internal medicine, pediatrics, and obstetrics) that are located in private hospitals affiliated with State medical schools. Grants of approximately \$6,200 per resident are made to 36 such programs. The grant program is currently funded at \$1.6 million and is administered by the Board of Higher Education.

The programs under the Family Practice Residency Act went unfunded for 4 years

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during a fiscal squeeze in the early 1980's. Consequently, there is an insufficient period of observation to assess their effectiveness. However, there is considerable interest in the scholarship program and in using the grants to further expand satellite training programs that can help provide access to services for rural and inner-city residents. In Illinois, funding through the education budget makes the program less vulnerable than if it were in the health budget.

## **Texas**

**The** State of Texas has three programs that support primary care training of physicians for underserved areas.

- **Family Practice Residency Program**

This program was created in 1977 by the Texas legislature to better distribute family physicians throughout the State and to improve medical care in underserved areas. Funded from State general funds at a current level of \$7.8 million, it is operated by the Texas Higher Education Coordinating Board. The Board contracts with individual family practice program directors, providing about 15 percent of the programs' costs (faculty, office space, supplies and materials, residents'

stipends, and support personnel). The residency programs also receive funding from their base hospitals and from fee revenues and some receive Federal grants. Under this program, 24 training programs are currently sponsored.

Since 1983 the program has supported preceptorships in family medicine for medical students and a Family Practice Faculty Development Center. The current level of funding represents a 7.9 percent increase over the previous year, with future funding fairly secure. Funding was flat from 1985-1989, a period of severe fiscal distress in the State. However, State revenues have begun to rise again, and the Family Practice Residency Program is viewed as successful. Over its 10-year history, it has supported training programs that have produced 1174 family physicians. About 40 percent of these physicians are practicing in **HMSAs** in Texas, and almost 80 percent are practicing somewhere in the State.

- **Physician Student Loan Repayment Program**

Funded from a 2 percent set-aside from medical school tuition, this program provides \$9,000 per year for **up** to

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5 years to physicians who practice in rural or underserved areas. The physicians have no contractual obligation to stay. However, at the end of each year they remain, the State gives them \$9,000. If they practice in an area of extreme need (areas that are designated as medically underserved and that are also designated by the U.S. Commerce Department as economically depressed), they receive \$18,000. The additional \$9,000 comes from an NHSC grant. **CHCs**, which experience great difficulty recruiting doctors, are per se included in the "extreme" category.

Like the primary care training program, the loan repayment program is administered by the Texas Higher Education Coordinating Board. The current funding level of the program is \$460,000 depending on medical school enrollments, which have been steady for several years. The program is considered cost-effective; of 22 physicians whose loans have been completely repaid, 18 remain in their original practice locations. State funding is likely to continue to be available. The future of the Federal funding is less certain. The State tracks the outcome of this program and the Family Practice Residency Program

with data from the State Board of Medical Examiners.

#### • **Resident Physician Compensation Program**

Since 1983, State funds have been given to medical schools to channel to their teaching hospitals for residency training in primary care. The actual use of the funds is decided by the medical schools and teaching hospitals.

Current (1990) funding for the program is \$4.2 million, up 35 percent from the previous year. The program is under evaluation in the legislature and in the Higher Education Coordinating Board that administers it. The nature of the program does not permit identification and tracking of individuals, nor other means of ascertaining whether or not it is supporting residents who subsequently enter subspecialty training. Thus, it is unclear whether or not it is actually increasing the supply of primary care practitioners.

In addition to these three programs, the State's 1989 Omnibus Health Care Rescue Act, House Bill 18, included a requirement that medical schools provide third-year medical students a

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family medicine clerkship. No additional funds were attached to this requirement; medical schools were expected to redirect some of their existing resources to meet the requirement. The legislation also mandated a 1-month rural rotation for family practice residents, authorizing funding of \$275,000 for fiscal 1990 and \$350,000 for 1991. The Coordinating Board will administer the funding and monitor these rotations.

As these initiatives are just beginning, it is too early to assess their effectiveness. Because recruitment into family practice residencies is a greater problem than the existence of enough training opportunities, the effect of mandated exposure of medical students to family practice will be closely observed.

## New **York**

In New York, the training and deployment of primary care physicians is currently receiving a great deal of attention. **The** State's Council on Graduate Medical Education and its Rural Health Council have each issued reports calling for greater emphasis on primary care training and service. There is a growing awareness that

the State's enormous investments (approximately \$150 million annually) in medical education through its State university system and through its support of medical education for its residents in private medical schools is not producing sufficient primary care practitioners for underserved populations.

The State supports family practice residency programs through a program of contracts. Initiated in 1974, the program was funded at the same level (\$1.25 million) for 10 years; in 1985 the legislature increased funding to \$2.5 million. Today program funding is at \$5 million and supports 22 programs. Recently, the State started to require that the residents in the program must agree to stay in New York for 2 years after they complete their training; previously there were no linkages between State subsidies and location of practice. The Council on Graduate Medical Education has recommended that this program be expanded to include primary care internal medicine and general pediatrics programs. It is funded from State general revenues and administered by the Department of Health.

Under the Regents Physician Loan Forgiveness Program, 80 awards of up to \$10,000 per year are available for doctors



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who agree to practice primary care medicine in designated shortage areas; the effect of this program is not documented.

The Rural Health Council has recommended several actions to improve access to primary care services in rural areas of the State. These recommendations include:

- Recruitment of students from rural communities;
- Development of curricula for primary care training including exposure to outpatient practice in rural areas; and
- Expansion of rural teaching programs and development of rural AHECS linked to the State university system.

In addition, the Council has made a number of recommendations to enhance the attractiveness of primary care practice in rural areas. The recommendations are based on a preference for organized and network practice, unlike Tennessee, where the recommendations are based on the solo practice model. They are aimed at providing capital for establishing practices in rural areas and improving payments for primary care services.

It remains to be seen how the recommendations for an expanded commitment to primary care training and service will fare as New York copes with fiscal stringencies.

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# Health Professions Programs

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## Background

Title VII programs have provided Federal assistance for health professions training since 1963. Since that time, health manpower policy has shifted from its original emphasis on increasing the supply of health manpower toward improving the geographic and specialty distribution of practicing health professionals. Since 1976, the Health Professions Education Assistance Act (**P.L.94-484**) has included several provisions intended to ease the geographic and specialty maldistribution of health professionals. This legislation greatly increased the funding authorizations for two programs, the NHSC and its scholarship program, designed to encourage health professions personnel to serve in health manpower shortage areas. It had already begun funding **AHECs** in 1972 to address specialty maldistribution, particularly in rural areas.

**P.L. 94-484** also encouraged physicians to enter primary care specialties by augmenting primary care training support and by requiring medical schools receiving **capitation** assistance to maintain a specified percentage of first-year residency positions in primary care. The OBRA of 1981 (**P.L. 97-35**), which revised and extended the provisions of the health professions

authorities through fiscal year 1984, continued the emphasis on targeted programs to improve the distribution and quality of health professions personnel. In fiscal year 1988, through the Health Omnibus Programs Extension (**P.L.100-607**), this initiative continued.

Within recent years, the Bureau of Health Professions has increasingly encouraged all programs within the Bureau to interface with more health care delivery systems, particularly those that service shortage areas. For example, health professions grant programs provide funding for priority points if they develop educational programs within **HMSAs** or with **C/MHCs**. In times of high competition, these funding priority points assumed great importance. There has also been a resurgence of efforts to work more closely with health departments on the State and local levels and to implement models of community-oriented primary care.

The following is a description of the programs within the Division of Medicine that have attempted to affect the training, recruitment, and supply and distribution of health professionals. Most of these models are based on a medical model for primary care.

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## National Primary Care Program Strategy

Although there have been changes within Federal health professions education support since its earliest Congressional authorizations, within the past 20 years the emphasis on the training of primary care providers has been a generally consistent theme. As stated in the Division of Medicine's Annual Reports, the National Primary Care strategy was to: (1) increase the total number of physicians practicing primary care medicine; (2) increase the program capacity for training primary care physicians and enhance the quality of that training; and (3) increase the number of primary care physicians available to deliver primary medical care in health manpower shortage areas.

There are several major components to this effort. The underpinning grant was Section 780 (Family Medicine Departments) whose objectives were to assist in establishing and maintaining academic administrative units to provide clinical instruction in family medicine and to assist family medicine units in achieving comparability in status, faculty, and curriculum with those units of other major clinical specialties, and finally, to assist in providing an overall adminis-

trative base and structure for resources development for all levels of family medicine educational activities both in the academic institution and in clinical field settings.

Another major legislative support for Family Medicine is a three-part authorization under Section 786(a). This included predoctoral training in family medicine to assist schools of medicine or osteopathy to emphasize the provision of longitudinal, preventive, and comprehensive medical care to families; graduate training or residencies in family medicine; and faculty development in family medicine to assist in increasing the supply of physician faculty and to assist in enhancing the pedagogical skills of faculty presently teaching in family medicine.

Section 784 for general internal medicine/general pediatrics is divided into two parts. The first is graduate or residency training to assist in promoting graduate education with an emphasis on the principles of continuity, ambulatory care, preventive and psychosocial aspects of the practice of medicine. The second is faculty development to promote the development of pedagogical skills of physicians who teach or plan to teach in general internal medicine and/or general pediatrics in order

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to increase the supply of general internal medicine and general pediatrics physician faculty.

In 1985, the Division of Medicine undertook systematic efforts to evaluate these primary care programs. Because of data collection constraints, the evaluations relied heavily on public data of record and the willingness of professional societies to share data. They also used the site visit/case study method maximized to obtain primary data from a limited number of sites. When the evaluations were completed, it was hoped that the Division of Medicine would have data on the effect of Federal support on the spectrum of family medicine training programs, including residency and faculty training. An important factor was an assessment of institutional support across the country for the totality of family medicine programs within each medical school.

## **Family Practice Programs**

Study outcomes showed a positive association between level of Federal funding and total numbers of family practice residents and some association between funding continuity and number of residents produced. It was also interesting

to find that continuously funded programs had higher proportions of women and minorities. In terms of financial investments for leverage, the evaluation found revenue/cost ratios of family practice residency programs vary directly with Federal funding. This confirms the concept of grant funds being last dollar funds.

They also found that Federal grant funds had a positive effect on program status particularly during the startup phase, stability and maintenance. They also noted that the impact of loss of Federal support is a function of organizational structure and that smaller programs in smaller institutions are more severely affected. There was, however, no definitive trends in practice-site selection relative to funding.

In evaluating the effects of Federal support through the predoctoral training programs, outcomes documented the fact that the number of family medicine graduates increased over the study period (1978-1984) as did regular and volunteer faculty; larger institutions are more significant sources of family medicine graduates; a clear association between receipt of grants and increase in number and weight of departmental faculty. The case studies indicate that grants have had a positive effect on acceptance by faculty from other depart-

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ments of family medicine as a specialty and attractiveness of specialty to students through clerkship/preceptorship experiences. It also had a positive impact on the incorporation of elective courses in family medicine into the general curriculum.

In assessing the family medicine faculty development program, study outcomes showed a positive association between the level of Federal funding and numbers and mix of faculty trained; positive association between the level of Federal funding and program longevity/stability (program expiration decreases as intensity of funding increases). In addition, continuity of funding positively associated with number of faculty trained. Finally, Federal funding provided opportunities for competencies in research, administration, communication, etc.

Finally, in the assessment of family medicine departments, the study documented that Federal support appears to be associated with stability or positive change in the administrative status of family medicine units, including positive association between Federal support and expansion of graduate activity, an increase in support from other sources for family medicine units and its centrality to other

Federal funding in achieving departmental development goals.

The study also recommended five priority areas for continued development of the discipline: (1) establishment of wide research base; (2) defined family medicine curriculum; (3) increased supply of qualified faculty; (4) development of medical **informatics/clinical** systems; and (5) long-range planning for addressing societal and technological changes/needs.

## **General Internal Medicine and Pediatrics Residency Programs**

In the primary care residency training in general internal medicine and pediatrics, the evaluators attempted to assess the impact of Federal grant support on increasing the number of physicians trained in general internal medicine and general pediatrics, increasing program capacity for training these physicians, enhancing the quality of training, and increasing the number of these physicians who practice in under-served areas.

The study outcomes showed that 76 percent of primary care training programs initiated in 1977-1986 were federally funded. The

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number of residents in federally funded primary care training programs more than doubled between 1977-1986, while federally funded primary care training programs led in the amount of continuity time and had more ideal primary care practice settings.

Graduates of federally funded primary care training programs chose primary care generalist careers significantly more often than graduates of traditional residency programs (73 versus 55 percent), and board certification was attained more often by graduates of federally funded primary care programs.

## **Multidisciplinary Centers**

The **AHECs** were established in 1972 to: (1) improve the distribution, supply, quality, utilization, and efficiency of health personnel in the health care delivery system; (2) promote regionalization of health professions education by linking academic resources of health science centers with local planning, educational, and clinical resources; and (3) improve the delivery of health care by establishing a network of health-related institutions to provide educational services to students, faculty, and practitioners.

The AHECs, along with the NHSC, were one of the two Federal programs funded by Congress to address the issues of health professions maldistribution. The underlying principle of the AHEC Program is the partnership between the academic health science center and a regional geographic area represented by a community-based entity. The AHEC was also the first multidisciplinary program funded within the Division of Medicine and the Bureau of Health Professions.

Since its inception, the AHECs have been evaluated at least eight times, including one by a subcommittee of the House Appropriations Committee. The most persuasive strengths of the program, as seen by Congress, were its efforts to develop clinical training remote from the academic health science center and its responsiveness to regional educational needs for primary and preventive services.

According to a contract study funded by the BHCDA, the AHECs have shown a willingness to deal with the complexities of funding community-based medical education. The examples include: direct funding to residency programs and rotations in community-based facilities, lobbying within State governments for funding for manpower programs, and AHEC-sponsored



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demonstrations for training students and residents in underserved areas with the AHEC supporting the increased costs.

Twenty-two of the 26 AHECs interviewed had some, if limited, experience in working with **C/MHCs**. All 22 had experience with third- and fourth-year clinical rotations; 8 had experience with residencies as well. In discussing the issue of cost, 4 of the 22 AHECs with **C/MHC** training involvement had experienced net revenues as a result; these centers had found ways to bolster their programs using **C/MHC** resources. Of the remaining 18 that had experienced net cost, all but one believed the training experiences were well worth the added cost to their centers and/or the participating educational programs.

Approximately 65 percent (20) of the 31 **CHCs** interviewed had worked with AHECs, although a larger percentage had intermittent student training in their clinics, not AHEC related. Of the 20 **CHCs** with AHEC-related community-based training programs, five stated that they had experienced a net revenue depending on the level of the trainee and the period of time they had been **onsite**. The remaining 15 stated that the costs incurred could not be fully netted out through revenues; all but

one, however, expressed the belief that the benefits were worth the cost.

In the past 4 years, two other multidisciplinary programs have been authorized by Congress and are administered within the Division of Medicine. The first is the **HETCs** Program whose objective is to improve the supply, distribution, quality, and efficiency of personnel providing health services to populations with serious unmet health needs along the Mexican-American border or in other urban or rural areas, including frontier areas, with demonstrated unmet needs. The other is the **AIDS Regional Education and Training Centers (RETCs)** Program, which provides HIV/AIDS education and training programs for community primary care providers and a support system through the education and training centers, which serves area health professionals through clearinghouses, referral activities, and clinical information dissemination.

Both of these new multidisciplinary programs are in response to emerging health professions education needs and will further test the abilities of academic health science centers to respond to **community-based** needs through educational interventions.

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## Conclusion

In a 1988 Circle, Inc. study, funded by the BHCDA, it was stated:

**Medical educators agree that medical schools will need to shift much more of their training into ambulatory settings. Medical schools are doing more training in community-based settings than have in the past, and much of this is related directly to the presence of the AHECs.**

**These programs include networks of primary care preceptors, residency programs based in community hospitals, faculty development programs to enhance the academic skills of community-based faculty, and the establishment of resource learning centers in community-based health facilities. The majority of required and elective third and fourth year student rotations occur in private physician offices and urban hospitals. The disproportionately higher costs associated with ambulatory medical education will require either additional resources from payment programs or the shift of existing resources from the traditional hospital training programs. In health centers which have training affiliations with medical schools and residency programs, the perceived benefits for recruitment and retention of physicians in underserved areas exceed the cost incurred in lost productivity or indirect training costs.**

Although Federal funds have been helpful in overcoming problems in appropriately training primary care physicians as charged by Congress, there still remain major macrocosmic issues that also must be taken into account.

In a **symposium** on graduate medical education sponsored by the Bureau of Health Professions in 1983, a variety of constraints on the teaching environment were discussed. These factors included such conditions as an institution's patient load and case mix; changes in payment mechanisms, especially number of for-profit multiple hospital chains; and the overall diversification of hospitals and other health care institutions into various lines of business.

One of the most significant constraints on the environment identified by group participants was the perception on the part of universities that there was an "abundance" of physicians. Indeed, physician oversupply was described as a factor in the increased stress that has been placed at the local level on the relationship between the teaching institution and community hospitals and their medical staffs. In one setting, the size of a residency program was reduced, not because of funding or educational problems, but in

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order to respond to fears of local practitioners and clinical professors that the program was in competition with them. It was noted, however, that this was not the case in other parts of the country where many small communities are still significantly short of physicians and desire training programs. Indeed, in some of these settings, it was questioned whether training programs were meeting the appropriate balance between education and service had been exceeded. Nonetheless, attention to town/gown relationships was deemed an important task for residency training programs in the coming years.

Constraints imposed by new payment mechanisms were also discussed at some length. There was some concern expressed that the growth in for-profit hospital chains may negatively impact on the quantity and quality of residency training available in a given region. Others expressed the view that there was an opportunity for academic centers to create relationships with such institutions for referral of specialized cases and for the provision of academic expertise. Concern was expressed that ambulatory training and other decentralized nontraditional educational sites were going to be negatively affected by new payment mechanisms.

At the same time, it was noted that there continues to be sections of the country where the need for primary care providers is still great. The suggestion was made by some that residency review committees relax to some degree, consistent with quality, the restrictions on the number and remoteness of an institution that a single training program can utilize.

It was also noted that any future changes in physician payment altering the balance between specialties would have long-term effects on the attractiveness of such a specialty and therefore impact on graduate medical education. This is not necessarily negative but may be a future constraint. It was also noted that patient care, research, and teaching are intimately intertwined and changes in one aspect may have negative consequences for the other. The need for increased resources for clinical research was particularly stressed by several participants.

In short, it was felt that these and other constraints were placing a great deal of uncertainty and instability on the future of graduate medical education. It was also noted that national policies may have **different effects in individual institutions** and various regions of the country and that it is therefore necessary to maintain a

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degree of flexibility to anticipate these differences.

It is clear that federally funded health professions training programs play an important role in:

- Focusing on health manpower training issues as a national resource concern;
- Promoting primary care training as a sustained component of Federal policy; and
- Periodically expressing national priorities, by providing funding preference to initiatives such as minority training, quality assurance, health promotion/disease **prevention**, geriatrics, substance abuse, or HIV infections.

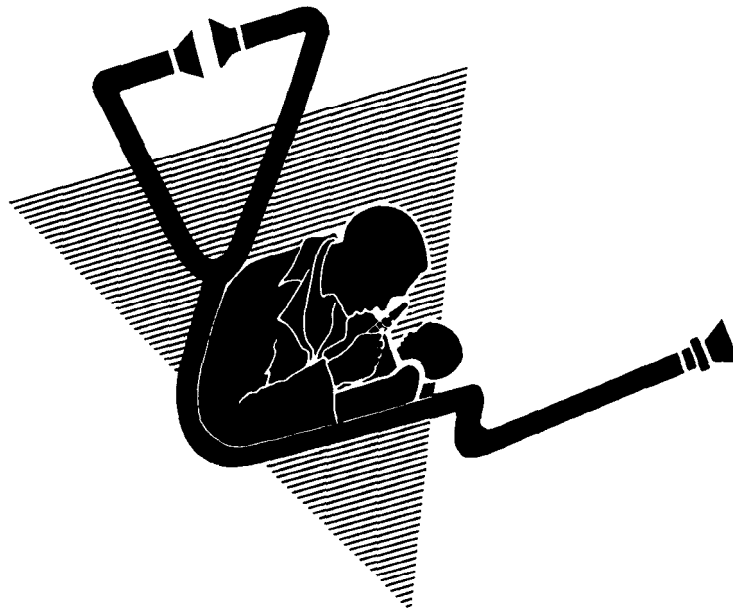
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## Reference

Physician Recruitment and Retention Patterns in Community and Migrant Health Centers Related to Training Programs. The Circle, Inc., 8201 Greensboro Drive, McLean, VA. Contract No. **240-87-0057**.

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## Appendix





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# Agenda

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**Wednesday, March 21, 1990**

**Afternoon Session**

**6:00**      Reception

*Terrace Gallery*

**7:00**      Plenary Session

*Terrace A/B*

**HRSA Welcome**

*Robert G. Harmon, M.D., M.P.H.  
Administrator  
Health **Resources** and **Services** Administration*

**Medical Experiences Required to Meet the Needs of the Underserved**

*Leighton E. Cluff, M.D.  
President  
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**7:30**      Dinner/Plenary Session

**PHS Welcome**

*James O. Mason, M.D., Dr. P.H.  
Assistant Secretary for Health  
U.S. Department of Health and Human Services*

**Crisis in Primary Care**

*Louis W. Sullivan, M.D.  
Secretary  
U.S. Department of Health and Human Services*



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**Thursday, March 22, 1990**

**Morning Session**

**7:00** Breakfast *Terrace A/B*

**8:00** **Introduction**  
*Robert G. Harmon, M.D., M.P.H.*  
*Administrator*  
***Health** Resources and Services Administration*

Primary Care: Present **and Future**  
*Robert **Petersdorf**, M.D.*  
*President*  
*The Association of American Medical Colleges*

**Workshops**

<b>8:30- 12:30</b>	I.	Recruitment and Retention	<i>Board Room 166</i>
	II.	Educational Reform	<i>Ellicott Room</i>
	III.	Enhancing Linkages	<i>Terrace D</i>
	IV.	Primary Care Research	<i>Board Room 246</i>

Coffee Stations available @ 10:00 a.m.

**Afternoon Session**

**12:30** Lunch *Terrace A/B*

**Workshops**

<b>2:00- 5:00</b>	I.	Recruitment and Retention	<i>Board Room 166</i>
	II.	Educational Reform	<i>Ellicott Room</i>
	III.	Enhancing Linkages	<i>Terrace D</i>
	IV.	Primary Care Research	<i>Board Room 264</i>

Coffee Stations available @ **3:00** p.m.

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## Thursday, March 22, 1990

## Evening Session

5:30 Reception

*Terrace Gallery*

6:30 Dinner/Plenary Session

*Terrace AIB*

### Introductions

*Robert G. Harmon, M.D., M.P.H.*

*Administrator*

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### National Health Service Corps White Paper

*Donald L. Weaver, M.D.*

*Director*

*National Health Service Corps*

### Barriers to Equity in Access for Racial/Ethnic Minorities

*David Satcher, M.D., Ph.D.*

*President*

*Meharry Medical College*

9:30 Workshops Reconvene

## Friday, March 23, 1990

## Morning Session

7:00 Breakfast

*Terrace Gallery*

8:00 Plenary/Workshop Overview

*Terrace AIB*

### Moderator

*Joel J. Alpert, M.D.*

*Professor and Chairman, Department of Pediatrics*

*Boston University School of Medicine*

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**Friday, March 23, 1990**

**Morning Session (continued)**

Workshop Reports

- 8:15 I. Recruitment and Retention  
8:35 II. Educational Reform  
8:55 III. Enhancing Linkages  
9:15 IV. Primary Care Research

9:30 Coffee Break

*Terrace Gallery*

9:50 **Reactor Panel**

*Harry **Beaty**, M.D.*

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*Jo Ivey **Boufford**, M.D.*

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*David N. **Sundwall**, M.D.*

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*Health Care Financing Administration*

11:30 Lunch

*Lakeview AIB*

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Friday, March 23, 1990

Afternoon Session

12:30 Plenary Session

*Lakeview AIB*

**Introductions**

*Robert G. Harmon, M.D., M.P.H.*  
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*creating* **Synergistic Solutions:**  
**A New Public/Private Partnership**  
*William L. Roper, M.D., M.P.H.*  
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1:30 **Rapporteur**

*John K. Iglehart*  
*Editor, Health Affairs*  
*Project HOPE*

2:00 Group Response

2:30 Closing Remarks

*Robert G. Harmon, M.D., M.P.H.*  
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3:00 **Adjournment**



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# Glossary of Acronyms

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<b>AAIP</b>	Association of American Indian Physicians
<b>AAMC</b>	Association of American Medical Colleges
<b>ACGME</b>	Accreditation Council on Graduate Medical Education
<b>AHCs</b>	academic health centers
<b>AHCPR</b>	Agency for Health Care Policy and Research
<b>AHECs</b>	area health education centers
<b>AIDS</b>	Acquired Immune Deficiency Syndrome
<b>AMA</b>	American Medical Association
<b>BHCDA</b>	Bureau of Health Care Delivery and Assistance
<b>C/MHCs</b>	community/migrant health centers
<b>CDC</b>	Centers for Disease Control
<b>CEAP</b>	Clinical Efficiency Assessment Program
<b>CHCs</b>	community health centers
<b>COGME</b>	Council on Graduate Medical Education
<b>COPC</b>	community-oriented primary care
<b>DHHS</b>	Department of Health and Human Services
<b>DRGs</b>	diagnostic related groupings
<b>EIS</b>	Epidemiology Intelligence Service
<b>GMENAC</b>	Graduate Medical Education National Advisory Committee
<b>GPAs</b>	grade point averages
<b>GPEP</b>	General Professional Education of the Physician
<b>GSLs</b>	guaranteed student loans
<b>HCFA</b>	Health Care Financing Administration
<b>HCOP</b>	Health Careers Opportunity Program
<b>HETC</b>	health education training center
<b>HEW</b>	Health, Education, and Welfare, Department of
<b>HIV/AIDS</b>	Human Immunodeficiency Virus/Acquired Immune Deficiency Syndrome
<b>HMOs</b>	health maintenance organizations
<b>HMSAs</b>	health manpower shortage areas
<b>HRSA</b>	Health Resources and Services Administration
<b>HSQB</b>	Health Standards and Quality Bureau ( <b>HCFA</b> )
<b>IHS</b>	Indian Health Service
<b>IOM</b>	Institute of Medicine
<b>KCOM</b>	Kirkville [MO] College of Osteopathic Medicine

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LCME	Liaison Committee for Medical Education
<b>MBTI</b>	Myers-Briggs Type Inventory
MCAT	Medical College Admissions Test
NACHC	National Association of Community Health Centers
NCHSR	National Center for Health Services Research
NHSC	National Health Service Corps
<b>NIH</b>	National Institutes of Health
NMA	National Medical Association
NRC	National Research Council
NRMP	National Residency Matching Plan
OBRA	Omnibus Budget Reconciliation Act
OEO	Office of Economic Opportunity
OSCE	objective structural clinical examination
PBL	problem-based learning
<b>PCC</b>	primary care curriculum
<b>PCCP</b>	primary care career pathway
PHS	Public Health Service
<b>PPO</b>	preferred provider organization
<b>PPS</b>	prospective payment system
<b>PSAP</b>	Physician Shortage Area Program
RBRVS	resource-based relative value scale
REVS	relative educational value scale
RPAP	Rural Physician Association Program
<b>RRCs</b>	residency review committees
SAG	sense of anxiety versus gratification
SECOM	Southeastern College of Osteopathic Medicine
<b>UHECs</b>	urban health education centers
VA	Veterans Administration
WAMI	Washington, Alaska, Montana, and Idaho (a four-State program)
WHO	World Health Organization
<b>WIC</b>	women, infants, and children
WVSOM	West Virginia School of Osteopathic Medicine
w w	West Virginia University

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